Cloud Migration Checklist

A comprehensive guide for planning and executing your cloud migration project

Introduction

This checklist provides a structured approach to cloud migration, helping your organization plan, execute, and optimize the transition to cloud services. Proper planning and execution of cloud migration can lead to significant benefits including cost reduction, enhanced scalability, improved flexibility, and streamlined IT operations.

Phase 1: Assessment and Planning

Business Objectives

- [ ] Define clear business goals for cloud migration
- [ ] Identify key success metrics and KPIs
- [ ] Establish project timelines and milestones
- [ ] Determine budget constraints and ROI expectations
- [ ] Align migration strategy with overall business strategy

Current Infrastructure Assessment

- [ ] Create a complete inventory of all hardware assets
- [ ] Document all software applications and versions
- [ ] Map application dependencies and integrations
- [ ] Assess current infrastructure performance metrics
- [ ] Identify technical debt and obsolete systems
- [ ] Document data storage locations and volumes
- [ ] Analyze network architecture and connectivity

Application Assessment

- [ ] Categorize applications (mission-critical, important, non-essential)
- [ ] Determine application complexity and dependencies
- [ ] Assess application architecture compatibility with cloud
- [ ] Identify applications requiring refactoring or replacement
- [ ] Document third-party integrations and APIs
- [ ] Analyze application usage patterns and peak loads
- [ ] Assess application compliance and security requirements

Data Assessment

- [ ] Catalog all data sources and repositories
- [ ] Classify data based on sensitivity and compliance requirements
- [ ] Identify data that must remain on-premises due to regulations
- [ ] Evaluate data volume and transfer requirements
- [ ] Document data retention policies and archiving needs
- [ ] Assess database performance and scaling requirements
- [ ] Identify data that requires special migration handling

Team Readiness

- [ ] Assess current team skills and identify skill gaps
- [ ] Develop training plans for technical teams
- [ ] Identify key roles needed for migration (cloud architects, engineers, etc.)
- [ ] Consider third-party expertise requirements
- [ ] Plan for organizational change management
- [ ] Define clear roles and responsibilities for the migration project

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Phase 2: Strategy Development

Migration Approach Selection

- [ ] Determine migration strategy for each application:
- [ ] Rehost (lift-and-shift)
- [ ] Replatform (lift-and-optimize)
- [ ] Refactor/Re-architect
- [ ] Repurchase (move to SaaS)
- [ ] Retire
- [ ] Retain
- [ ] Prioritize applications for migration (low-risk, high-value first)
- [ ] Create a phased migration roadmap

Cloud Provider Selection

- [ ] Identify cloud service requirements (IaaS, PaaS, SaaS)
- [ ] Evaluate potential cloud providers against requirements
- [ ] Compare pricing models and total cost of ownership
- [ ] Assess geographic availability and data residency options
- [ ] Review provider's security certifications and compliance
- [ ] Evaluate provider's SLAs and support offerings
- [ ] Consider multi-cloud or hybrid cloud approach if appropriate

Architecture Planning

- [ ] Design target cloud architecture
- [ ] Plan for high availability and disaster recovery
- [ ] Design for scalability and performance
- [ ] Plan networking architecture (VPNs, direct connections, etc.)
- [ ] Define identity and access management approach
- [ ] Plan for monitoring and management tools
- [ ] Design for cost optimization

Security and Compliance Planning

- [ ] Identify applicable compliance requirements (GDPR, HIPAA, etc.)
- [ ] Develop cloud security architecture and controls
- [ ] Plan encryption strategy for data in transit and at rest
- [ ] Design identity and access management policies
- [ ] Plan for security monitoring and incident response
- [ ] Develop compliance documentation and reporting process
- [ ] Consider third-party security assessment

Risk Management

- [ ] Identify potential risks and challenges
- [ ] Develop risk mitigation strategies
- [ ] Create contingency plans for critical applications
- [ ] Plan rollback procedures
- [ ] Assess potential business impact of migration issues
- [ ] Develop strategies for minimizing downtime

Phase 3: Pre-Migration Preparation

Governance Framework

- [ ] Establish cloud governance policies and procedures
- [ ] Define resource naming conventions and tagging standards
- [ ] Create cloud service approval workflows
- [ ] Develop cost management and optimization processes
- [ ] Establish monitoring and reporting requirements
- [ ] Define roles and responsibilities for cloud operations

Migration Tooling

- [ ] Select migration tools and utilities
- [ ] Set up migration environments and prerequisites
- [ ] Validate tool compatibility with current systems
- [ ] Train team members on migration tools

- ☐ Perform test migrations with selected tools
- ☐ Establish automated testing procedures

Proof of Concept

- ☐ Select representative applications for initial migration
- ☐ Perform test migrations in isolated environment
- ☐ Validate performance and functionality
- ☐ Document lessons learned and process improvements
- ☐ Refine migration procedures based on results

Communication Plan

- ☐ Identify all stakeholders affected by migration
- ☐ Develop communication templates and cadence
- ☐ Create training materials for end users
- ☐ Establish feedback mechanisms
- ☐ Plan for status reporting and escalation procedures

Phase 4: Migration Execution

Pre-Migration Checks

- ☐ Verify backups of all systems being migrated
- ☐ Confirm resource availability in target environment
- ☐ Validate network connectivity to cloud environment
- ☐ Verify access credentials and permissions
- ☐ Conduct final review of migration plan
- ☐ Complete pre-migration security scan
- ☐ Communicate migration schedule to all stakeholders

Data Migration

- ☐ Implement initial data transfer for large datasets
- ☐ Set up data synchronization for ongoing changes
- ☐ Validate data integrity after transfer
- ☐ Test data access and performance
- ☐ Implement encryption and security controls
- ☐ Document data transfer completion and verification

Application Migration

- ☐ Deploy application infrastructure in cloud environment
- ☐ Migrate application code and configurations
- ☐ Update connection strings and endpoints

- [ ] Configure monitoring and alerting
- [ ] Update DNS and load balancer configurations
- [ ] Test application functionality
- [ ] Validate application performance
- [ ] Document deployment procedures and configurations

Testing

- [ ] Perform functional testing of migrated applications
- [ ] Conduct performance testing under expected load
- [ ] Test high availability and failover capabilities
- [ ] Validate backup and recovery procedures
- [ ] Perform security testing and vulnerability scanning
- [ ] Test integration with other systems and services
- [ ] Validate compliance requirements are met

Cutover

- [ ] Finalize cutover schedule and communicate to stakeholders
- [ ] Perform final data synchronization
- [ ] Update DNS and routing configurations
- [ ] Verify application availability after cutover
- [ ] Monitor system performance and user experience
- [ ] Have rollback plan ready if needed
- [ ] Document cutover completion and any issues encountered

Phase 5: Post-Migration Optimization

Performance Monitoring

- [ ] Implement comprehensive monitoring solutions
- [ ] Establish performance baselines
- [ ] Set up automated alerting for anomalies
- [ ] Monitor user experience and satisfaction
- [ ] Track system performance against pre-migration metrics
- [ ] Identify and address performance bottlenecks

Cost Optimization

- [ ] Implement resource tagging for cost allocation
- [ ] Set up budget alerts and cost monitoring
- [ ] Identify underutilized resources for right-sizing
- [ ] Implement auto-scaling where appropriate
- [ ] Consider reserved instances or savings plans

- [ ] Optimize storage tiers based on access patterns
- [ ] Implement automated resource scheduling for non-production

Security and Compliance Validation

- [ ] Perform post-migration security assessment
- [ ] Validate compliance with regulatory requirements
- [ ] Implement security monitoring and alerting
- [ ] Conduct regular vulnerability scanning
- [ ] Review and refine access controls
- [ ] Document compliance status for auditing purposes

Operational Procedures

- [ ] Update IT operational procedures for cloud environment
- [ ] Implement cloud-specific backup and disaster recovery
- [ ] Document new support and escalation procedures
- [ ] Establish change management process for cloud resources
- [ ] Create cloud environment documentation
- [ ] Transfer operational knowledge to support teams

Continuous Improvement

- [ ] Collect feedback from users and stakeholders
- [ ] Document lessons learned from migration
- [ ] Identify areas for further optimization
- [ ] Plan for adoption of new cloud services and features
- [ ] Develop cloud training program for ongoing skill development
- [ ] Establish cloud center of excellence or community of practice

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Additional Considerations

Multi-Cloud and Hybrid Cloud

- [ ] Define management strategy for multiple cloud providers
- [ ] Implement consistent security across cloud environments
- [ ] Plan for data sharing between environments
- [ ] Establish connectivity between on-premises and cloud
- [ ] Consider tools for multi-cloud management and monitoring

Containerization and Microservices

- [ ] Assess applications for containerization potential
- [ ] Develop container orchestration strategy
- [ ] Plan for microservices architecture where appropriate

- ☐ Implement CI/CD pipelines for containerized applications
- ☐ Consider service mesh for microservices management

DevOps Integration

- ☐ Implement Infrastructure as Code (IaC) practices
- ☐ Set up CI/CD pipelines for cloud deployments
- ☐ Integrate automated testing in deployment workflows
- ☐ Implement comprehensive logging and monitoring
- ☐ Establish feedback loops for continuous improvement

Resources

StrategiData Cloud Services

- Cloud Readiness Assessment
- Cloud Migration Strategy Development
- Migration Implementation Services
- Post-Migration Optimization
- Cloud Managed Services

Contact us at cloud@strategidata.com or visit strategidata.com/cloud-services to learn more about how we can assist with your cloud migration journey.