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Disaster recovery with IBM cloud virtual servers

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Disaster recovery with IBM cloud virtual servers

Problem Definition:

The objective of this project is to establish a comprehensive disaster recovery plan utilizing IBM Cloud Virtual Servers. The primary aim is to ensure the continuity of business operations in the face of unforeseen events that may disrupt our on-premises virtual machine infrastructure. This disaster recovery plan encompasses multiple phases, including defining the disaster recovery strategy, configuring backup and replication processes, validating recovery procedures, and ultimately ensuring seamless business continuity.

DESIGN AND IMPLEMENTATION

1 – Disaster Recovery Strategy

Predictive Analytics Integration:

- Analyze historical data to identify patterns and potential disaster triggers.
- Use predictive modelling to estimate the likelihood and impact of different disaster scenarios.

Dynamic Disaster Recovery Strategy:

- Identify critical business processes and assign recovery priorities dynamically.
- Create decision trees and algorithms to guide automated responses to predicted events.

2 – Configure Backup and Replication Processes

AI-Powered Automation Implementation:

- Collaborate with cloud architects to implement AI-driven automation for real-time data replication.
- Use machine learning models to optimize backup schedules and storage allocation.
- Integrate blockchain technology for secure and tamper-proof data backups.

3 – Validate Recovery Procedures

Simulation and AI-Powered Testing:

- Simulate these scenarios using AI-driven testing.
- Implement AI-driven anomaly detection to identify potential issues in recovery plans.

Augmented Reality Integration:

- Use AR headsets to guide IT personnel during recovery simulations.
- Capture real-time data and performance metrics during simulations for analysis.

4 – Ensure Seamless Business Continuity

Hybrid Cloud Architecture Setup:

- Implement containerization and microservices for rapid scaling and failover.
- Deploy IBM Edge Application Manager for local processing and redundancy.

5 – Continuous Improvement and Machine Learning

Machine Learning Integration:

- Continuously collect and analyze real-time data and performance metrics.
- Implement reinforcement learning to adapt and fine-tune recovery procedures.

IBM Auto AI Implementation:

- Utilize IBM Auto AI for automated model selection and hyperparameter tuning.
- Ensure that the disaster recovery solution is always optimized for maximum efficiency.

Testing and Validation:

- Conduct extensive testing of the entire disaster recovery solution.
- Validate the accuracy and effectiveness of predictive analytics, automation, AI-powered testing, and other components.
- Address any issues and refine the solution as needed.

Documentation and Training:

- Create comprehensive documentation for the disaster recovery plan and its components.
- Provide training to IT personnel on how to operate and maintain the solution effectively.

Deployment and Monitoring

- Deploy the disaster recovery solution in the production environment.
- Implement continuous monitoring to ensure that predictive analytics, automation, and AI components are functioning as expected.

Ongoing Optimization and Maintenance:

- Continuously monitor the disaster recovery solution's performance and adapt it to changing business needs and evolving risks.
- Utilize the machine learning-driven optimization to ensure the solution remains at its peak performance.

Conclusion:

By following these detailed steps, the innovative disaster recovery solution using IBM Cloud Virtual Servers, predictive analytics, automation, AI-driven testing, augmented reality, and machine learning will be effectively implemented. This solution will provide the organization with a robust and adaptable strategy for ensuring business continuity in the face of unforeseen events. Regular testing, monitoring, and optimization will keep the solution reliable and responsive to changing circumstances.