ORIENT TECHNOLOGIES

AWS SAP COMPETENCY

RMC JOHNSON

CASE STUDY

EXECUTIVE SUMMARY

RMC (India) division is one of India's leading ready-mixed concrete manufacturers, set-up in 1996. RMC (India) division currently operates 93 ready-mixed concrete plants in 44 cities/towns across the Country. Further, the Division has been able to secure new positions in its existing markets which will help it to grow going forward. RMC (India) division has also ventured into the Aggregates business and operates large Quarries and Crushers. At present, Prism RMC has 5 Quarries across the country. RMC (India) division has been at the forefront in setting high standards for plant and machinery, production and quality systems and product services in the ready-mixed concrete industry.

CUSTOMER CHALLENGES

- RMC Database is on 11g, and this has been out of support.
- RMC has not much downtime window also they wanted to migrate and upgrade database in one go.
- Despite good H/W resource RMC suffering from performance issue.
- Due to Database growth Hard disk resources costing more.
- DMS was not implemented causing huge database growth.
- SAP Standard on modification of sap object was not in place.
- SAP Solution manager system was not in place.
- During the setup overview we found that database files were having corruption.
- HP-UX system will be not supported further after Dec 2020.
- Further to SAP roadmap of S/4 HANA, HP-UX system is not supported.
- SAP ECC DR Service was placed but was not working.
- SAP connection was not in place for any support from SAP.
- Citrix licensing cost has been a major concern factor to the customer
- Load Balancing was complex in on-premises environment.
- Database compression was not enabled; hence the DB size has been a problem to customer
- Database parameters are not set as per SAP recommendation. As result client struggling with performance of SAP.
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PROPOSED SOLUTIONS

1. Primary Site and DR Site should be in different seismic zone.

2. Snoozing of DEV & QAS systems and any non-productive cloud instance during off-hours 12 hrs x 6 days (automatic resource start/ shutdown, no manual intervention) instead of 24 hrs x 7 days (whichever works out cheaper) as per PJL requirement.

3. SAP Application Instance & Database Instance to reside on the same server regarding ECC DEV and QAS systems.

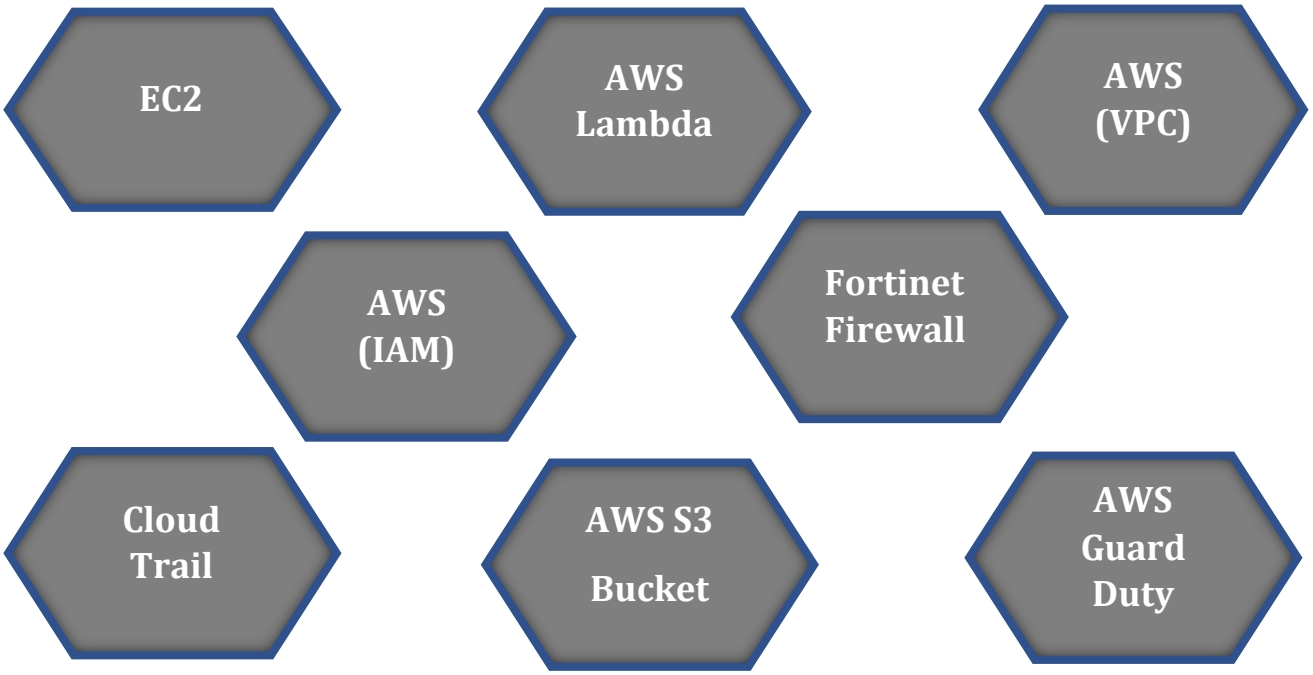
4. Development freeze duration across the SAP Landscape (Quality, Development & Production) should be minimal. The migration approach should be planned accordingly.

5. Total license compliance from all the OEM's on the license front. Any additional licenses requirement must be clearly mentioned in the proposal.

6. Daily, weekly, and monthly MIS and governance meeting as per PJL requirement.

7. RPO (Recovery point objective) less than 15 minutes and RTO (Recovery time objective) of less than 1 hour. Deviation beyond above timelines should be discussed and mentioned clearly.

AWS SERVICES USED



SAP SUCCESS STORY

- SAP version will not be changed. Database or OS version of systems will be changed from HPUX/Oracle 11g to Oracle Enterprise Linux /Oracle 12c Or 18c in this process
- This will be heterogeneous method of migration. Target systems version of ECC will be same as source. Solution manager will be installed on 7.2.
- Basis configuration of solution manager will be done
- Build Sandbox system on Oracle Linux from copy of Production system running on HP-UX 11i v3 (To estimate production downtime required)
- Entire set of Testing on sandbox
- Oracle Database migration to latest stable compatible version (oracle version18 preferred)
- Development system Migration from HP-UX to Oracle Linux
- Entire set of Testing on development.
- Quality system Migration from HP-UX to Oracle Linux
- Mock Runs: Perform mock run to estimate the exact downtime.
- Production system Migration from HP-UX to Oracle Linux (Production Downtime required – to be confirmed after sandbox testing)
- Go Live ECC PRD on CLOUD. Post Go live support for approximately 8 weeks.
- Full data integrity without any data loss during the migration will be the responsibility of the partner.
- An additional on-premises HPE-UNIX compatible server with similar hardware configuration as production will be required on rental basis for 2 months. RMC will provide the server and partner must install O.S, SAP/Oracle, make it ready & use it for migration.
- During POC & production migration activity, it is mandatory for partner to provide on-site support
- The new OS is based on Intel and supported further for SAP roadmap S/4HANA.
- Migration to AWS cloud and database upgrade was done in one go.
- We manage to clear the database corruption in same procedure.
- As production database was having database corruption, we created a parallel system and used for migration. Production system used as fall-back plan.
- Database compressed on 19c by 55%. It helps to reduce the cost of storage.
- Speed of system has been increased enough to bring smile on RMC users face.
- DR system is placed using Cloud endure to minimise the RPO and RTO.
- Solution manager and SAP router system installed and configured. These ensure in case RMC need any urgent help from SAP then SAP will be able to connect and access the system.
- Secure connection between user and SAP landscape has been setup to mitigate any unauthorised access of systems.
- A method of object modification has been placed after syncing the system.

PROJECT DURATION

Start Date: 10-July-2020

End Date: 16-Aug-2020

Outcome

- OS change and Data base upgrade done in single downtime.
- Post processing and operation started within time. Database integrity and security of server done in same downtime.
- DMS implemented to ensure moderate database growth.
- Solution manager implementation done.
- DR system setup on AWS using AWS Endure service
- Server performance increased
- Cost and server maintenance issue resolved
- Backup AMI Restoration to a new EC2 instance demonstrated to the customer.
- Orient has configured SAP load balancing via CloudWatch and Lambda which is uniquely done in AWS cloud for spinning up the stopped SAP APP server 2 as soon as SAP APP server1 and SAP DBCI reached 80% of CPU utilization.
- Achieved SSL VPN and IPSEC to all 90 locations with 99.99% success in 1st attempt without running into trial-and-error situations.
- Automatize native backup to object storage in AWS S3.
- Achieve DR with 15 Min RPO without affecting Production Architecture
- Reports in 1 min on AWS vs 30 min on premises.
- Snapshot ability to start clone server in 15 Mins.