

## Virtual Design Master - Challenge 3

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While things on Mars have been going well, since we now have multiple options for our infrastructure, the fact remains that we are working on the colonization of a foreign planet. We all know disasters can happen, after all, Mars is quite dusty. What happens if someone leaves the door to the data center open during a dust storm? What happens if inter site communications go down during a dust storm or a solar storm? We need to make sure we are planning for every contingency.

While a great deal of time and energy is being spent working on Mars right now, we can't forget our colony on the Moon, which is a perfect choice for disaster recovery. There is an advanced laser communications link between the Moon and Mars, with a consistent latency of under 10 milliseconds no matter what time of day it is. Like on Mars, our billionaire friend is also planning to build a public cloud infrastructure on the Moon.

Your challenge is to come up with a disaster recovery plan for our key applications on Mars. The components you need to protect are as follows:

- 5 node Microsoft Exchange environment (2 front-end and 3 mailbox servers). Each machine with 4 CPU and 12 GB of RAM.
- 15 web application servers running IIS/MSSQL locally on each instance. Each machine is 2 CPU and 8 GB of RAM.
- 3 servers running a MariaDB cluster. Each machine with 1 CPU and 4 GB of RAM.
- 5 file servers (15 TB each of storage). Each machine with 2



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CPU and 12 GB of RAM.

- 15 virtual machines running CoreOS to support Docker. Each machine with 4 CPU and 12 GB of RAM.
- 2 legacy Windows NT 4 servers running IBM DB2. Each machine with 1 CPU and 4 GB of RAM.

In addition, you must define the RTO and RPO you plan on using for each application, and why. Show what products you would use for this disaster recovery scenario, and what processes and procedures would be used in a disaster. You may build a new infrastructure on the Moon, or use any public cloud infrastructure. Be sure to clearly justify the choices you are making.

Document submission is **due Monday July 20<sup>th</sup> at 11 AM Eastern Time.**

Email the final design to [eric@discoposse.com](mailto:eric@discoposse.com) for review. PDF is preferred.

**Good luck everyone!**