

2021 Unidata Equipment Award Report
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We were kindly awarded an equipment grant within the 2021 Unidata Equipment Award. The proposal sought the purchase of a Dell server to increase database server performance to better support and enhance services offered to the Unidata community.

A Dell R7525 server was purchased (\$12,727.69) in early July 2021 with the following specifications:

- (x2) AMD EPYC 7302 3GHz 16 Cores
- 256 GB RAM
- (x6) 1.8TB Mixed-Usage NVMe storage drives
- (x2) 480GB SSD Operating System storage drives

After a period of performance testing and configuration, the server was fully deployed within the Iowa Environmental Mesonet (IEM) web farm by the end of July 2021. The server has performed wonderfully and without issue to the time of this report writing.

The purchased server meet the proposal goals by:

1. Increasing the IEM webfarm database capacity to remove any software throttles on hydrologic data downloads that were previously present due to limitations in compute capacity,
2. Increasing the performance of services used by Unidata's siphon to provide archives of observed sounding data, and
3. Enhancing the breath and depth of services offered within the IEM API, whose backend runs on the purchased server.

Additionally, a more detailed webpage[1] exists outlining services enhanced by this purchased server and a Unidata blog post is in progress to more widely advertise these newly enhanced services to the Unidata Community.

[1] <https://mesonet.agron.iastate.edu/docs/unidata2021/>