

Coordinated project plan for “An AWIPS II testbed and Unidata community THREDDS/RAMADDA server at UW-Madison” and “Increasing AWIPS II Capabilities at the University of Wisconsin”

Coordinated Project Plan

Recognizing the overlap between two 2013 Unidata Community Equipment Awards Program proposals from the University of Wisconsin, the revised project plan proposes to move forward with the entire Cooperative Institute for Meteorological Satellite Studies (CIMSS) proposal for the AWIPS II EDEX server and CAVE client workstation as originally submitted, along with the LDM/THREDDS/RAMADDA server portion of University of Wisconsin’s Department of Atmospheric and Oceanic Sciences (UW-AOS) proposal. This eliminates the redundant EDEX server request from the original UW-AOS proposal, while combining efforts and equipment to achieve all of the goals of both of the original proposals.

The AWIPS II EDEX server from the original CIMSS proposal will be acquired and set up primarily by CIMSS personnel, who have experience with an existing EDEX server. The proposed EDEX server should be sufficient to provide data to CAVE thin clients within CIMSS and the AOS classroom test bed. The EDEX server will also be accessible outside the building for individuals with remote telework agreements. The process of connecting the CIMSS EDEX server and UW-AOS classroom computers will provide valuable experience and insight for the setup and use of AWIPS II in an educational environment.

UW-AOS personnel will acquire and set up the originally proposed LDM/THREDDS/RAMADDA server. This will provide data ingest and storage for both UW-AOS and CIMSS, and provide real-time and case study data sets to the broader Unidata community.

Revised Budget

The revised budget reduces the sum of the previous two requests by approximately \$5,700. The cost reduction and unified proposal promotes a single, central AWIPS server for use by students, faculty, and research scientists from the UW-AOS and CIMSS, all housed in the same facility. This proposal requests support for one server and one workstation to run AWIPS II, and a second server for RAMADDA/THREDDS. The collective cost of the request is \$25,300. There are no other expenditures other than the capital equipment. Personnel support for hardware installation and maintenance at CIMSS and UW-AOS will come from existing projects that benefit from the new systems.

The requested server for AWIPS is a Dell PowerEdge R820 Rack Server with the following approximate specification, at a projected cost of \$13,200. The actual purchase and hardware specification will vary slightly based on product offerings at the time of purchase.

Processor	2x Intel® Xeon® E5-4640 2.40GHz, 20M Cache, 8.0GT/s QPI, Turbo, 8 Core, 95W, Max Mem 1600MHz
Hard Drives	3x 200GB Solid State Drive SATA Value MLC 3Gbps 2.5in Hot-plug Drive-Limited Warranty

Memory Configuration Type	Performance Optimized
Memory DIMM Type and Speed	1333 MHz UDIMMs
Memory Capacity	4GB UDIMM, 1333 MT/s, Low Volt, Dual Rank, x8 Data Width

The requested server for RAMADDA/THREDDS is a Dell PowerEdge R515 Rack Server with the following approximate specification, at a projected cost of \$5,700. The actual purchase and hardware specification will vary slightly based on product offerings at the time of purchase.

Processor	2x AMD Opteron™ 4386, 3.1GHz, 8C, Turbo CORE, 8M L2/8M L3, Max Mem 1600MHz
Hard Drives	8 X 2TB 7.2K RPM SATA 3Gbps 3.5in Hot-plug
Memory Configuration Type	8x8GB
Memory DIMM Type and Speed	1333MHz, Dual Ranked LV RDIMMs for 2 Processors, AECC
Memory Capacity	64GB Memory

The requested workstation is a Dell Precision T7600 Workstation with the following approximate specification, at a projected cost of \$6,400. The actual purchase and hardware specification will vary slightly based on product offerings at the time of purchase.

Processor	Dual Six Core XEON E5-2630 (2.3GHz, 15M, 7.2 GT/s,Turbo)
Hard Drives	3x 256GB, 2.5" SATA 6Gb/s Solid State Drive
Monitor	Dell UltraSharp™ U2410 24in HAS Wide Monitor, VGA/ DVI/ DP/ HDMI
Memory	8GB, DDR3 RDIMM Memory, 1333MHz, ECC (4 x 2GB DIMMs)
Graphics	Nvidia Quadro K5000, 4GB, 2 DP + DVli +DVId

While there is no cost sharing or matching, the University has already procured some components of the AWIPS II system at CIMSS, including a server, two workstations, and three portable workstations, all of which are now approximately two or more years old. Some workstations were purchased more than five years ago and are beginning to fail.

There is no institutional overhead for individual equipment expenditures over \$5,000.

Here is the summary of the proposed budget:

Server (Dell PowerEdge R820 or similar)	\$13200
Server (Dell PowerEdge R515 or similar)	\$5700
Workstation (Dell Precision T7600 or similar)	\$6400
Overhead and other costs	\$0
Installation, maintenance, and support	\$0
Total	\$25300