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High performance network support of APS experiments

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Argonne National Laboratory is currently positioning itself to provide access to high performance regional and national networks. Much of the impetus for this effort is the anticipated needs of the coming experimental program at the APS. Some APS CATs are also pressing for network speed improvements and security improvements. Requirements range from the need for high data-rate, secure transmission of experimental data to the desire to establish a "virtual experimental environment" at their home institution. In the near future, we expect that 45 Mbit national networks will be available to APS users, and that 155 Mbit regional ATM networks will be operational. Full-video teleconferencing, virtual presence operation of experiments, and high speed, secure transmission of data will soon be tested, and in some cases, be operational. We expect these efforts to enable a substantial improvement in the speed of processing experimental results as well as an increase in convenience to the APS experimentalist.

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