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## DWDM-RAM: enabling Grid services with dynamic optical networks

Figueira, S. Naiksatam, S. Cohen, H. Cutrell, D. Daspit, P. Gutierrez, D. Hoang, D.B. Lavian, T. Mambretti, J. Merrill, S. Travostino, F.

Santa Clara Univ., CA, USA

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### Abstract

Advances in Grid technology enable the deployment of data-intensive distributed applications, which require moving terabytes or even petabytes of data between data banks. The current underlying networks cannot provide dedicated links with adequate end-to-end sustained bandwidth to support the requirements of these Grid applications. DWDM-RAM is a novel service-oriented architecture, which harnesses the enormous bandwidth potential of optical networks and demonstrates their on-demand usage on the OMNInet. Preliminary experiments suggest that dynamic optical networks, such as the OMNInet, are the ideal option for transferring such massive amounts of data. DWDM-RAM incorporates an OGSi/OGSA compliant service interface and promotes greater convergence between dynamic optical networks and data intensive Grid computing.

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