Computing@PNNL SEMINAR

Data Management, *In Situ* Workflows and Extreme Scales

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Data-related challenges are dominating computational and data-enabled sciences and limiting the potential impact of scientific application workflows enabled by extreme-scale computing environments. While data staging and *in situ*/in-transit data processing have emerged as attractive approaches for supporting these extreme-scale workflows, the increasing heterogeneity of the storage hierarchy, coupled with increasing data volumes and complex and dynamic data access/exchange patterns, are impacting the effectiveness of this approach.

In this talk, Dr. Parashar will discuss these challenges and explore how autonomic runtime techniques are being engaged to address them. He also will present autonomic policies and cross-layer mechanisms that are part of DataSpaces, an extreme-scale data staging service. This research is part of the DataSpaces project at the Rutgers Discovery Informatics Institute.

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