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## The next generation ARC middleware and ATLAS computing model

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The distributed NDGF Tier-1 and associated Nordugrid clusters are well integrated into the ATLAS computing model but follow a slightly different paradigm than other ATLAS resources. The current strategy does not divide the sites as in the commonly used hierarchical model, but rather treats them as a single storage endpoint and a pool of distributed computing nodes. The next generation ARC middleware with its several new technologies provides new possibilities in development of the ATLAS computing model, such as pilot jobs with pre-cached input files, automatic job migration between the sites, integration of remote sites without connected storage elements, and automatic brokering for jobs with non-standard resource requirements. ARC's data transfer model provides an automatic way for the computing sites to participate in ATLAS' global task management system without requiring centralised brokering or data transfer services. The powerful API combined with Python and Java bindings can easily be used to build new services for job control and data transfer. Integration of the ARC core into the EMI middleware provides a natural way to implement the new services using the ARC components.

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