Threat Detection in an Urban Water Distribution Systems with Simulations Conducted in Grids and Clouds

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SUMMARY

We present a workflow-based algorithm for identifying threads to an urban water management system. Through Grid computing we provide the necessary high-performance computing resources to deliver quickly solutions to the problem. We prototyped a new middleware called *cyberaide*, that enables easy access to Grid resources through portals or the command line. A workflow system is used to manage resources in fault tolerant fashion. In addition, we contrast the architecture with a Hadoop implementation. Resources from TeraGrid and FutureGrid are used to test the feasibility of using the toolkit for a scientific application.