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## Lessons Learned from Migrating Open Science Grid to a Native Packaging Software Distribution

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We recently completed a significant transition in the Open Science Grid in which we moved our software distribution mechanism from the useful but niche system called Pacman to a community-standard native packaged system (RPM). Despite the challenges, this migration was both useful and necessary. In this paper we explore some of the lessons learned during this transition, lessons which we believe are valuable not only for software distribution and packaging, but for software engineering in a distributed computing environment where reliability is critical. We discuss the benefits found in moving to a community standard, including the abilities to reuse existing packaging, to donate existing packaging back to the community, and to leverage existing skills in the community. We describe our approach to testing in which we test our software against multiple versions of the OS, including pre-releases of the OS, in order to find surprises before our users do. We also discuss our large-scale evaluation testing and community testing, which are essential for both quality and community acceptance. Finally, we discuss how we can share our expertise, tools, and perhaps even testing infrastructure to benefit other communities building distributed software.

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