**V-BOINC: The Virtualization of BOINC**

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**The Problems of BOINC**

1. Developers required to port applications to each machine architecture
2. Developers required to provide application-level checkpointing
3. Developers limited to creating applications with no external dependencies
4. Users must trust BOINC project servers not to supply malicious or untrustworthy applications

**V-BOINC Overview**

V-BOINC is the virtualized version of BOINC where virtual machines are sent to volunteer hosts to run scientific computations.

**V-BOINC Client Architecture**

The V-BOINC Client is formed by the collection of the components: the V-BOINC Client GUI, a modified BOINC Core Client and the V-BOINC Middleware component.

**The Performance of V-BOINC vs BOINC**

Aims: (1) to measure the performance of V-BOINC compared to regular BOINC and (2) to test whether the implementation of V-BOINC introduces additional overhead than standalone virtualization.

**The Effect of System-Level Checkpointing**

**Conclusions**

V-BOINC solves the current downfalls of BOINC by introducing virtualization into BOINC.

The performance difference between BOINC and V-BOINC is largely due to virtualization overhead.

System-level checkpointing is suitable for a large range of current BOINC applications; these are typically CPU-intensive.

More information about V-BOINC can be found within the paper: *The Virtualization of BOINC: Proceedings of the 13th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2013).*