




GIGABIT ETHERNET FOR VOLUNTEER COMPUTING

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VOLUNTEER COMPUTING



 A type of distributed computing.

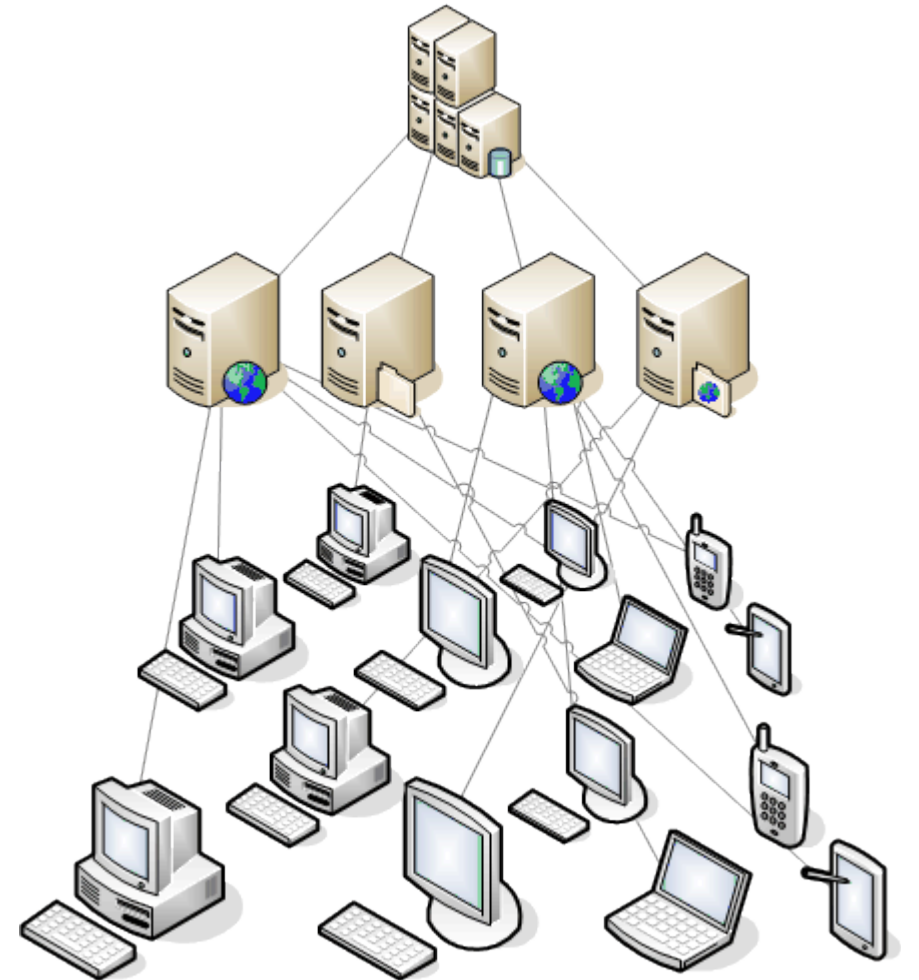
 Technology that enables ordinary citizens donate their computing resources to one or more “projects”.

 Origins in mid 1990s.

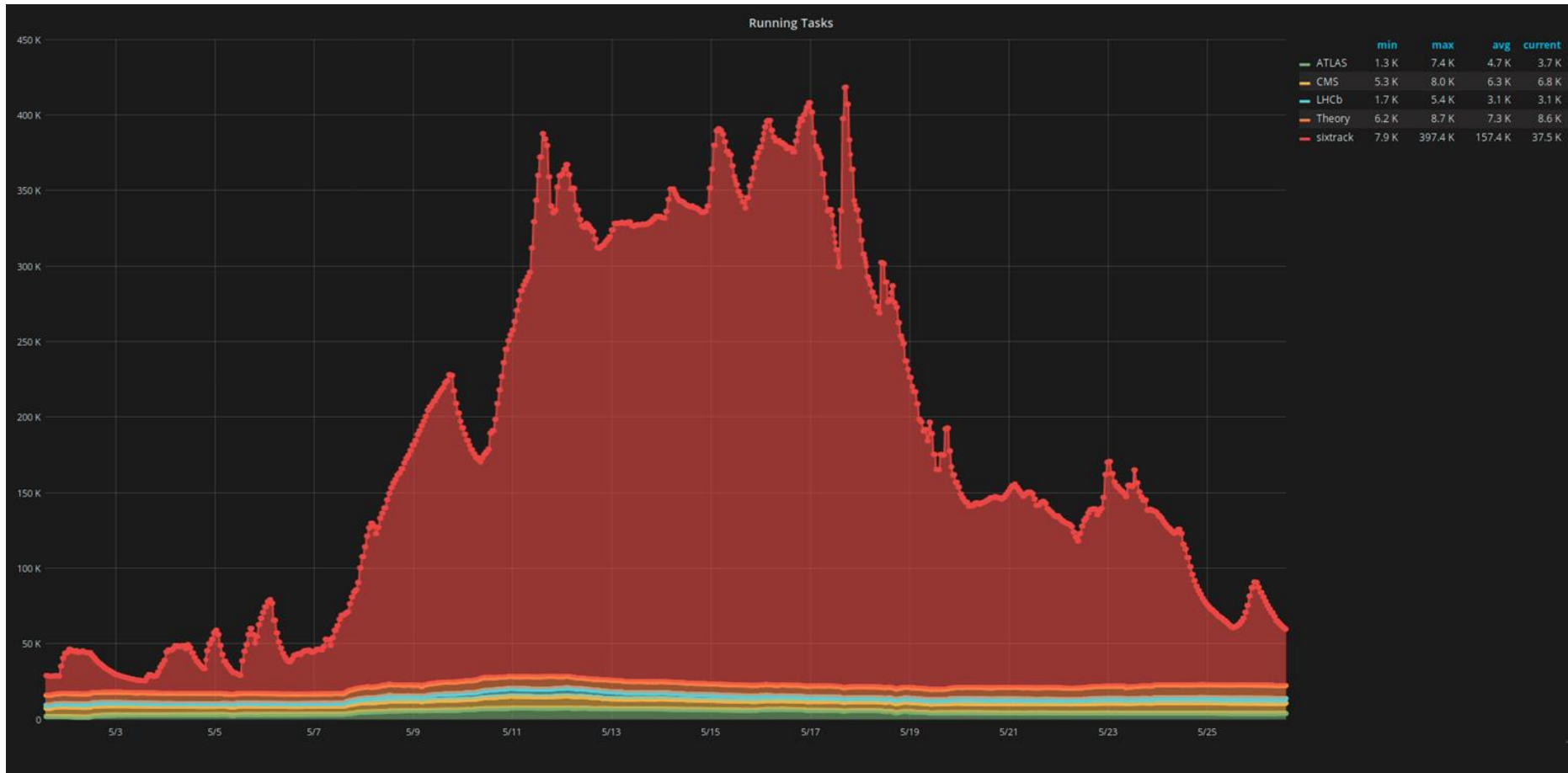
 The Berkeley Open Infrastructure for Network Computing (BOINC) is the most widely used middleware system.

 Challenges/ Directions

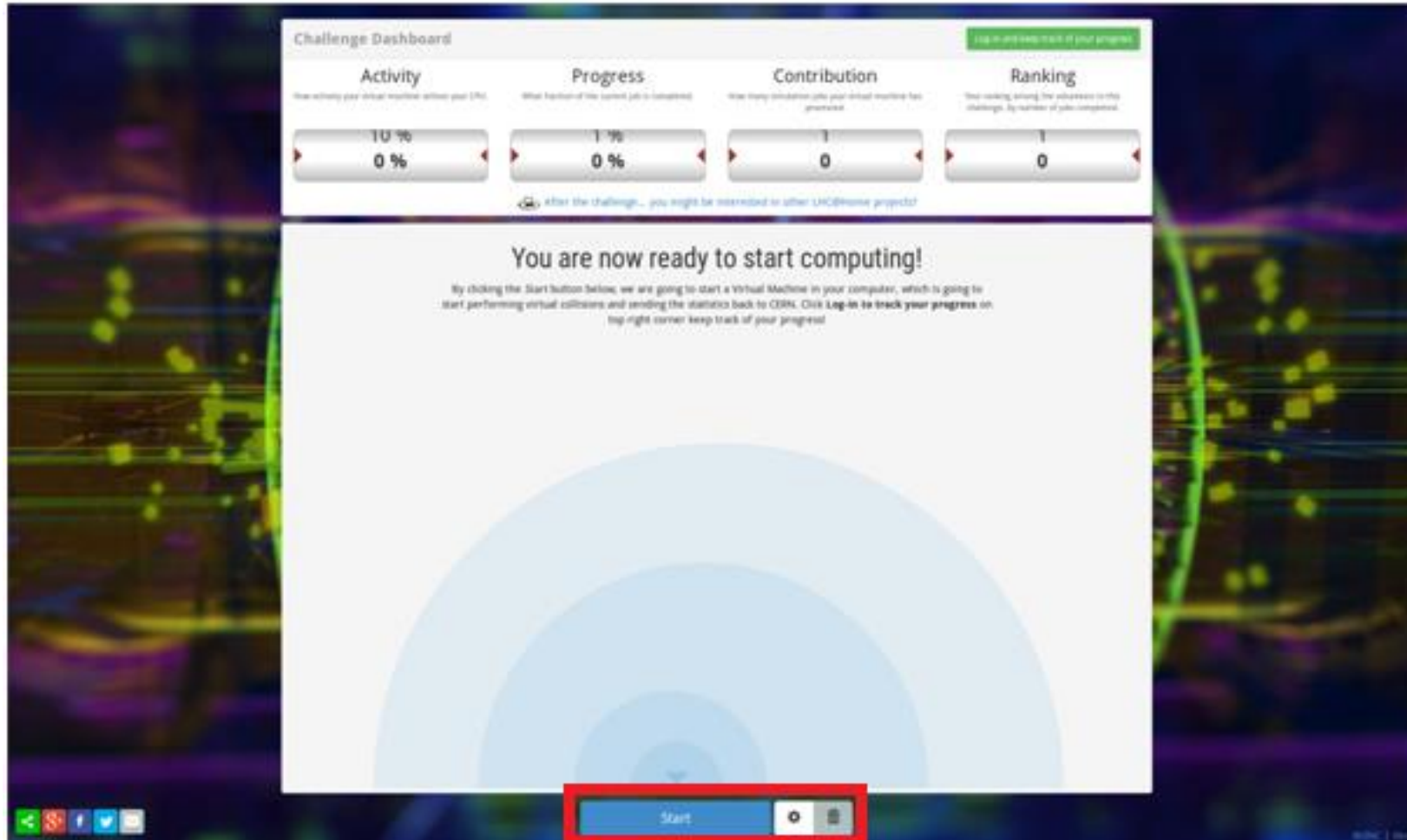
-  Data Intensive Applications
-  Virtual Machines Applications



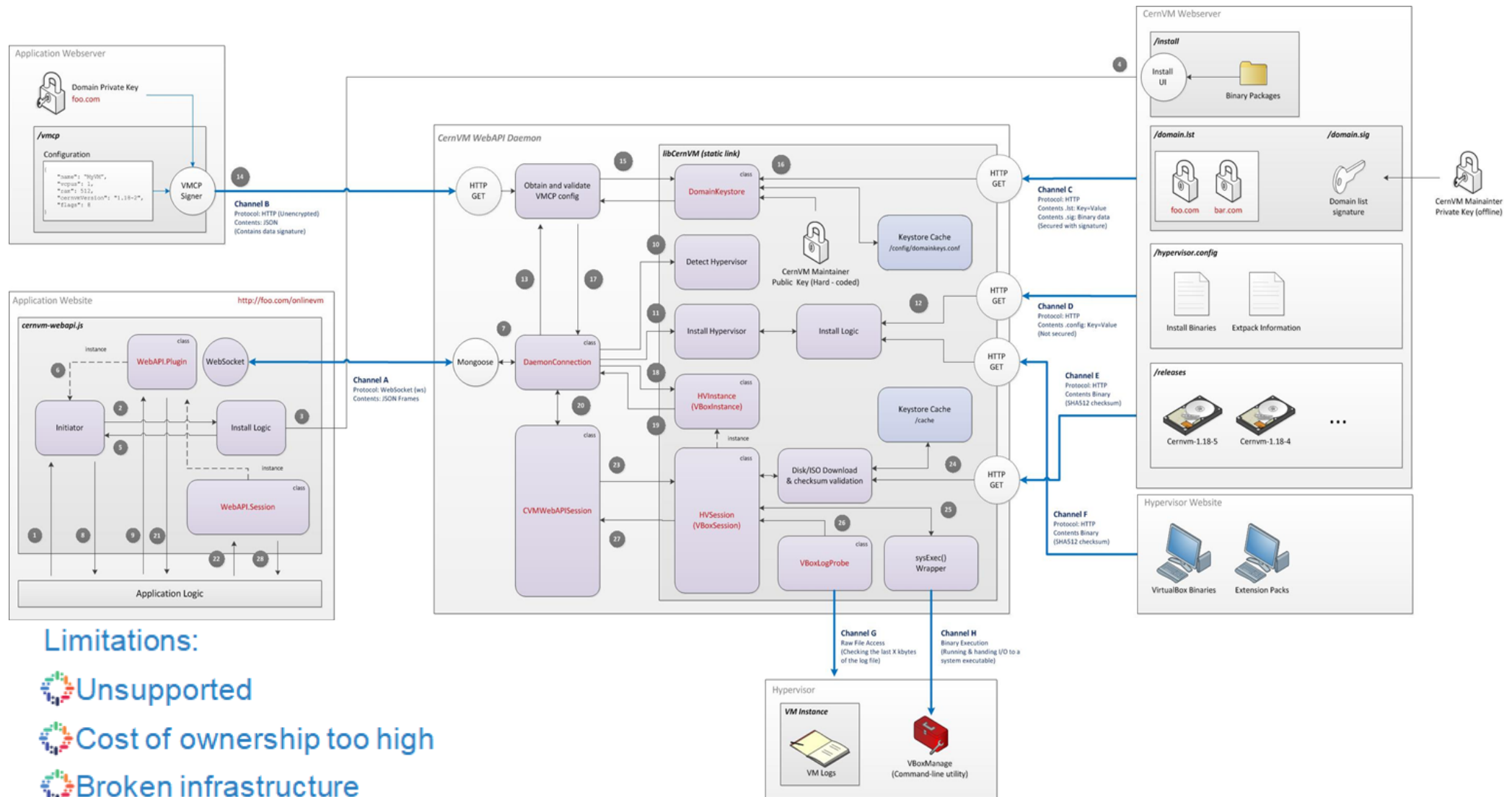
VM CAPACITY GAP



THE CHALLENGE WEBPAGE



CERNVM WEBAPI



Limitations:

- Unsupported
- Cost of ownership too high
- Broken infrastructure

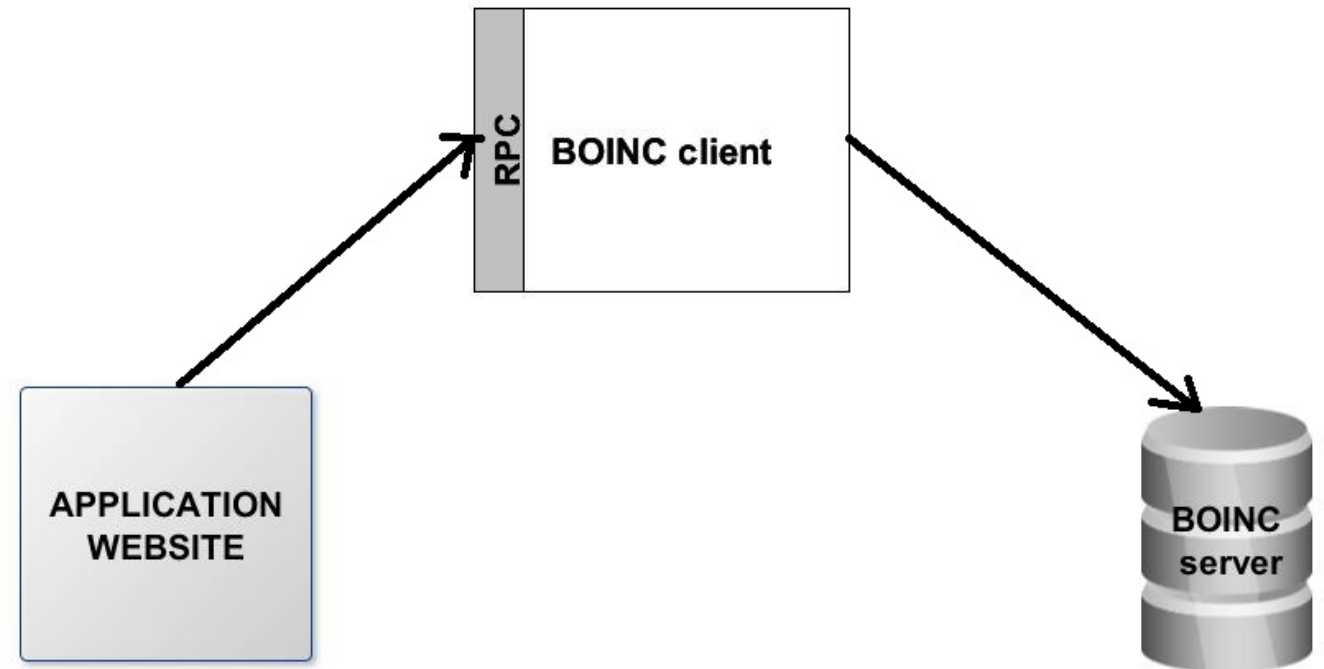
FRAMEWORK

 Goal: recreate an updated version of the Challenge Website using the BOINC client in place of the WebAPI.

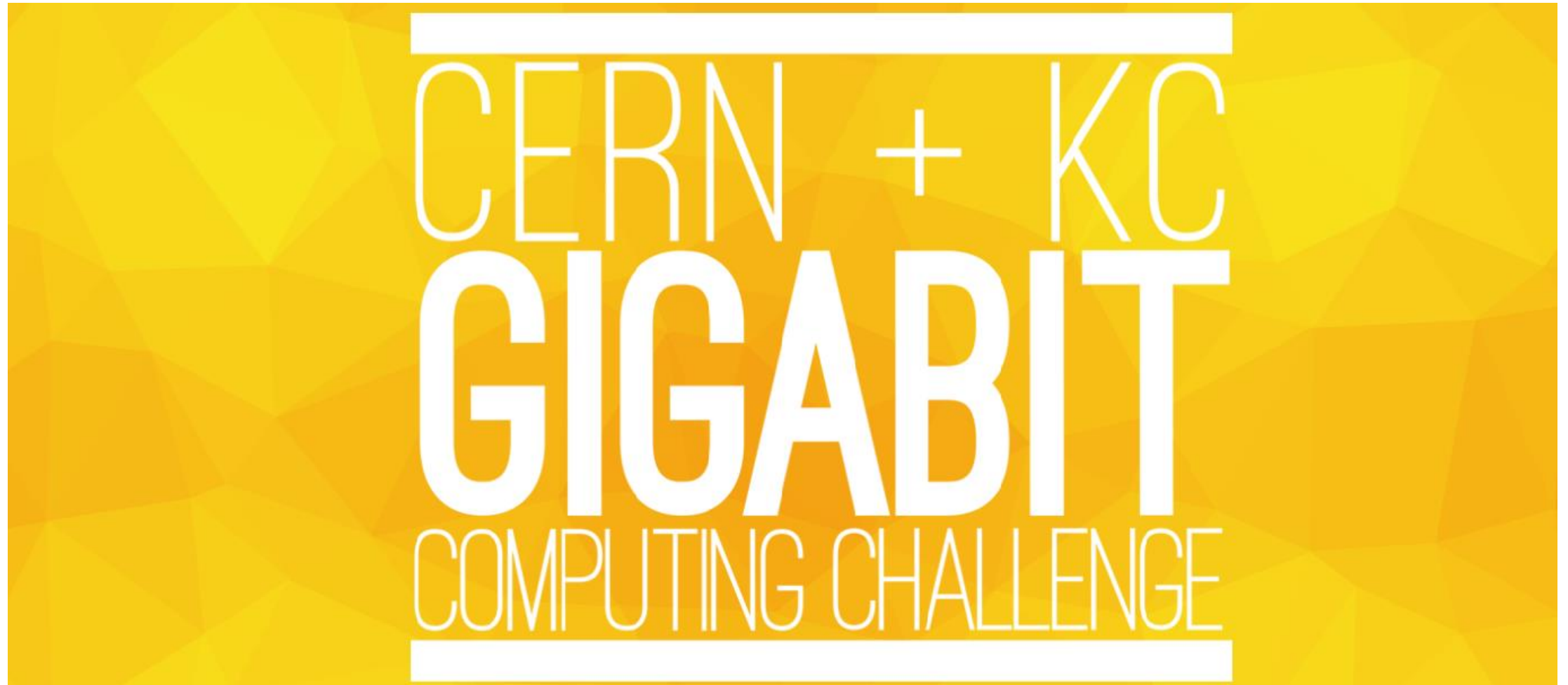
 This should also include features from the simple view of the BOINC GUI.

 The product provided should be reusable so that other sites can be easily created.

 The website should guide the user through the installation of BOINC client and Virtual Box.








GIGABIT CHALLENGE



GIGABIT CHALLENGE



CONCLUSION

-  Working to advance Volunteer Computing
 - Simplify the user experience for VM applications
 - Enabling Data Intensive applications
-  Investigated the use of CERN WebAPI
 - Cost of ownership too high
-  Investigated using the BOINC client as a replacement
 - Created initial prototype
-  Plan to use this framework for the next challenge
 - CERN+KC Gigabit Challenge
-  Will demonstrate this at the BOINC workshop in September
 - Hope to include it upstream