



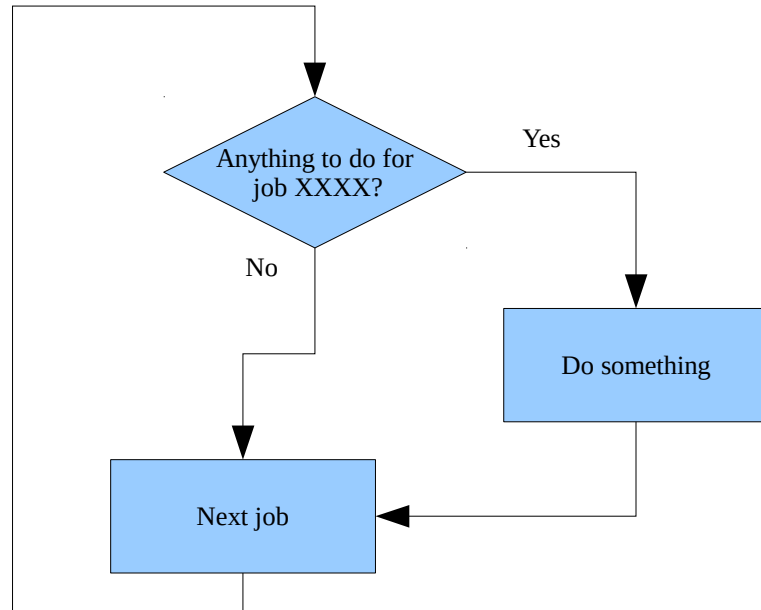
NORDUGRID

*Grid Solution for Wide Area
Computing and Data Handling*

A-REX jobs handling performance considerations

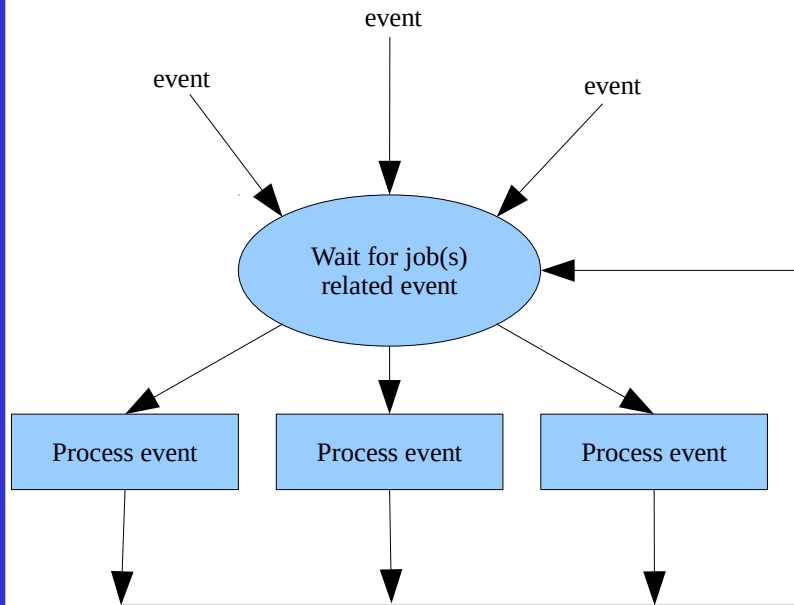
Aleksandr Konstantinov

Simple polling loop



- Simple – single place job conditions are evaluated
- Reliable – never loses jobs
- Resistant to coding errors
- Resistant to misbehavior of external components
- Not scalable
- Reaction time limitations

Fully event driven

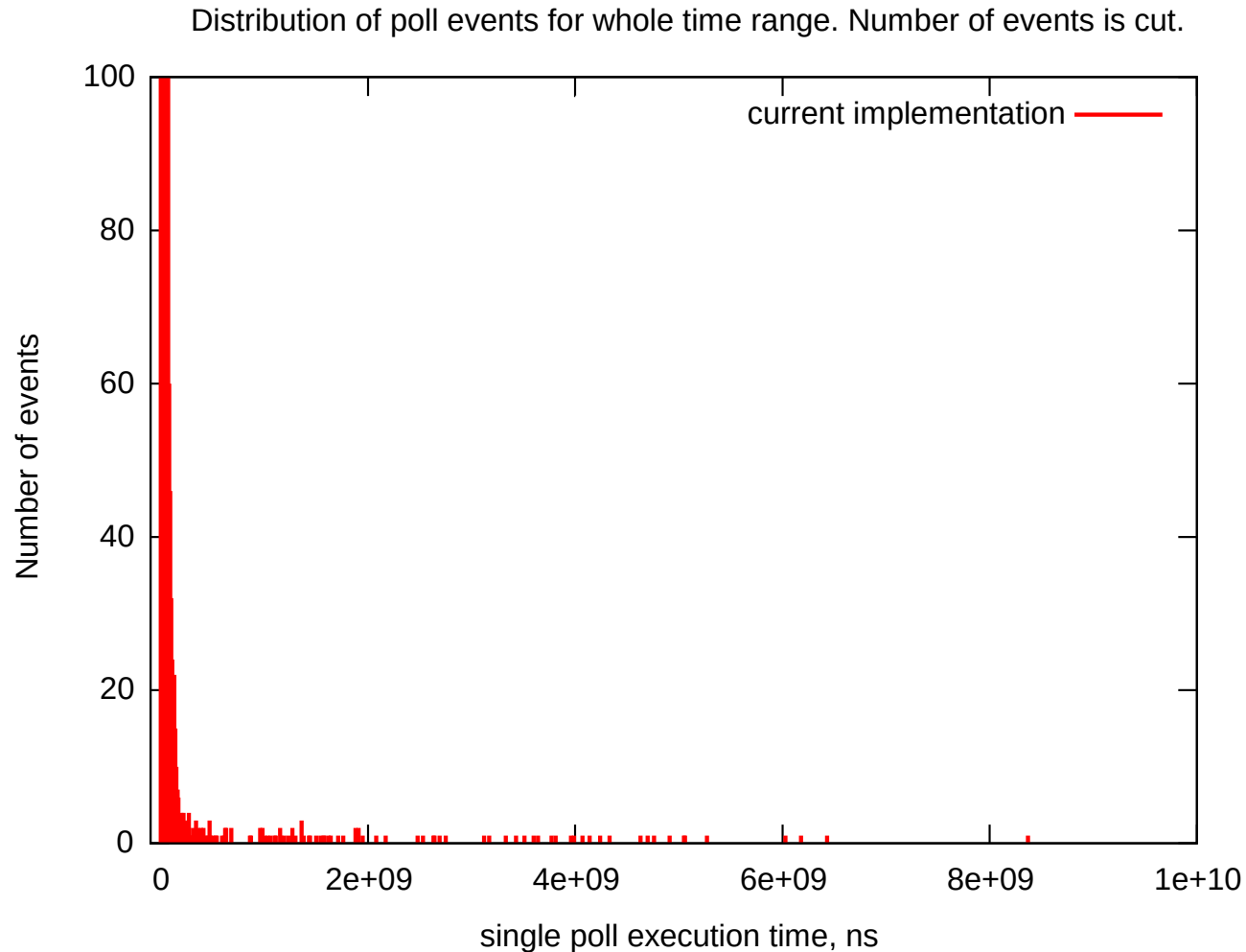


- Fast – ideally only performs actions needed for advancing job state
- Scales well – at least much better
- Good reaction time to conditions changes and external requests
- **Must envision proper events for every internal state**

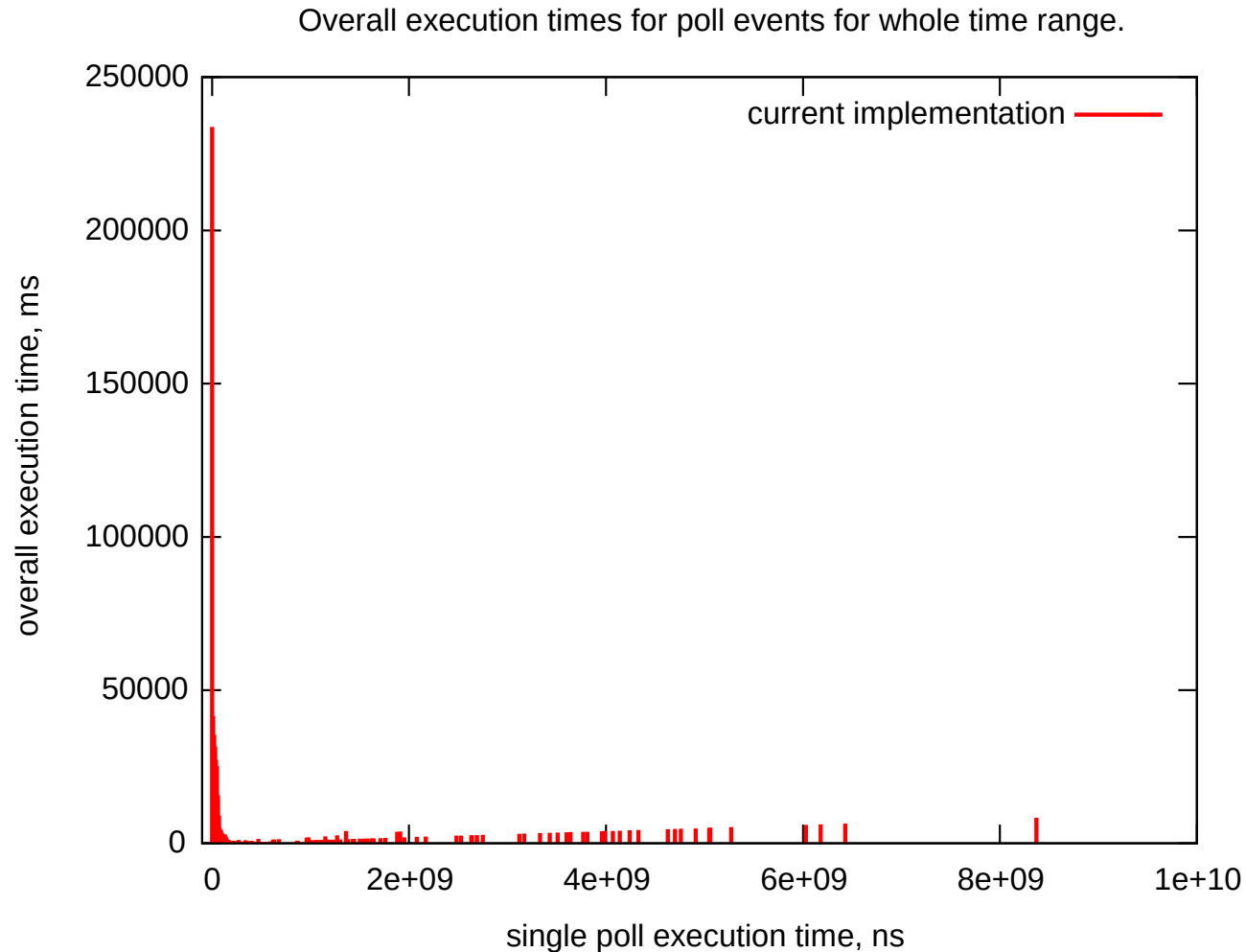
Job handling bottleneck

- Real implementations somewhere in between.
- Current implementation close to first option
- Is it worth shifting toward second option?

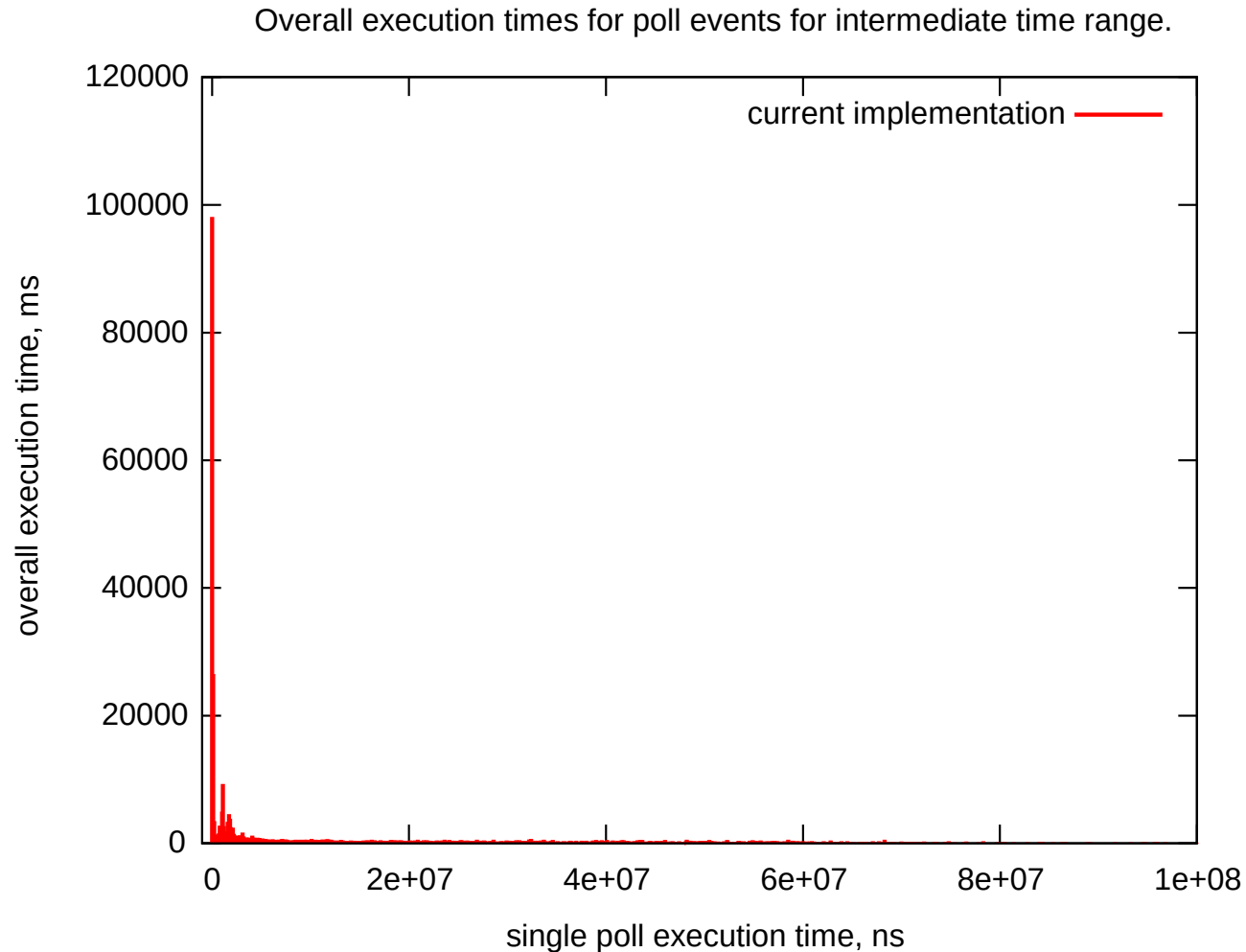
Internal performance evaluation



Internal performance evaluation

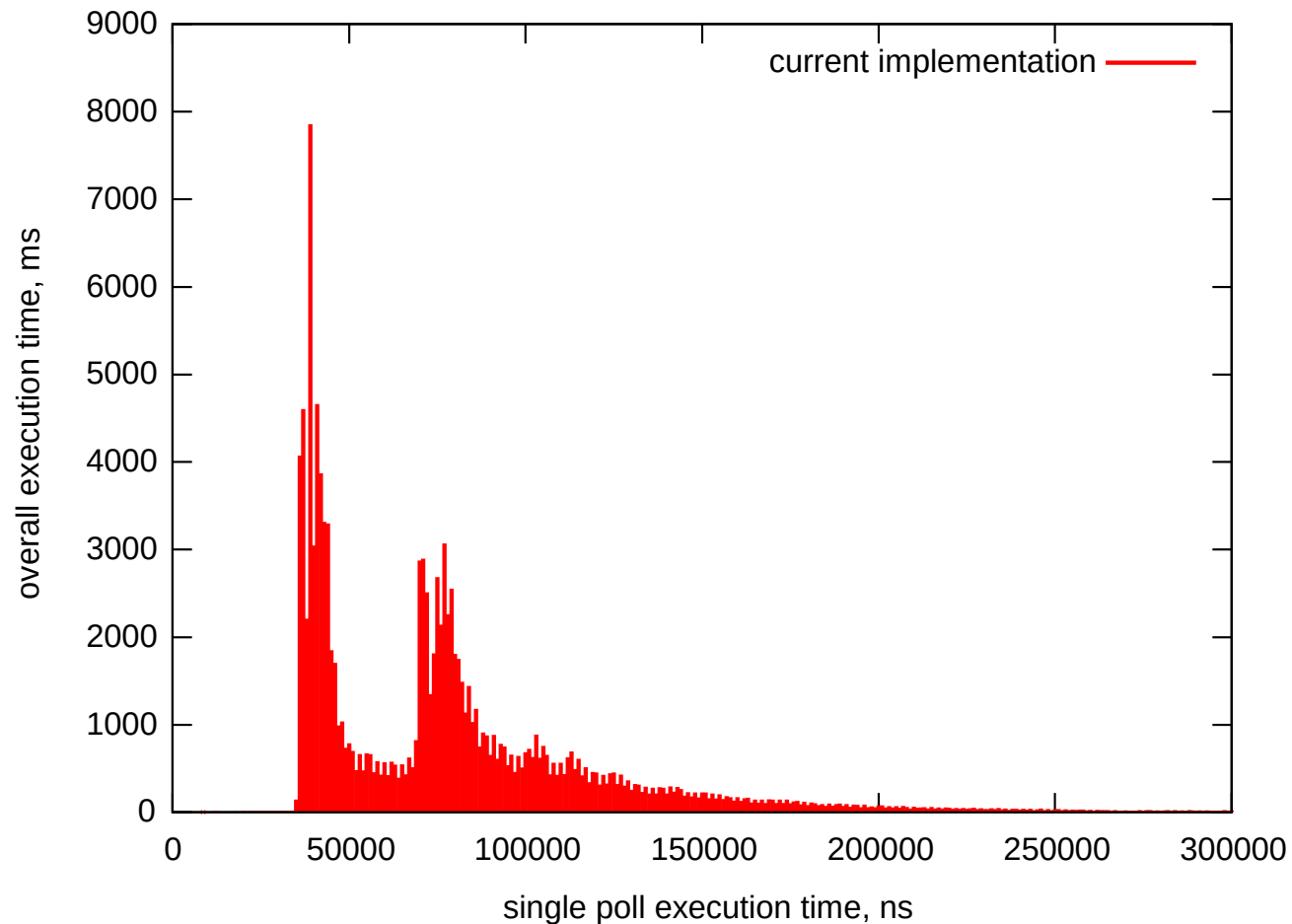


Internal performance evaluation



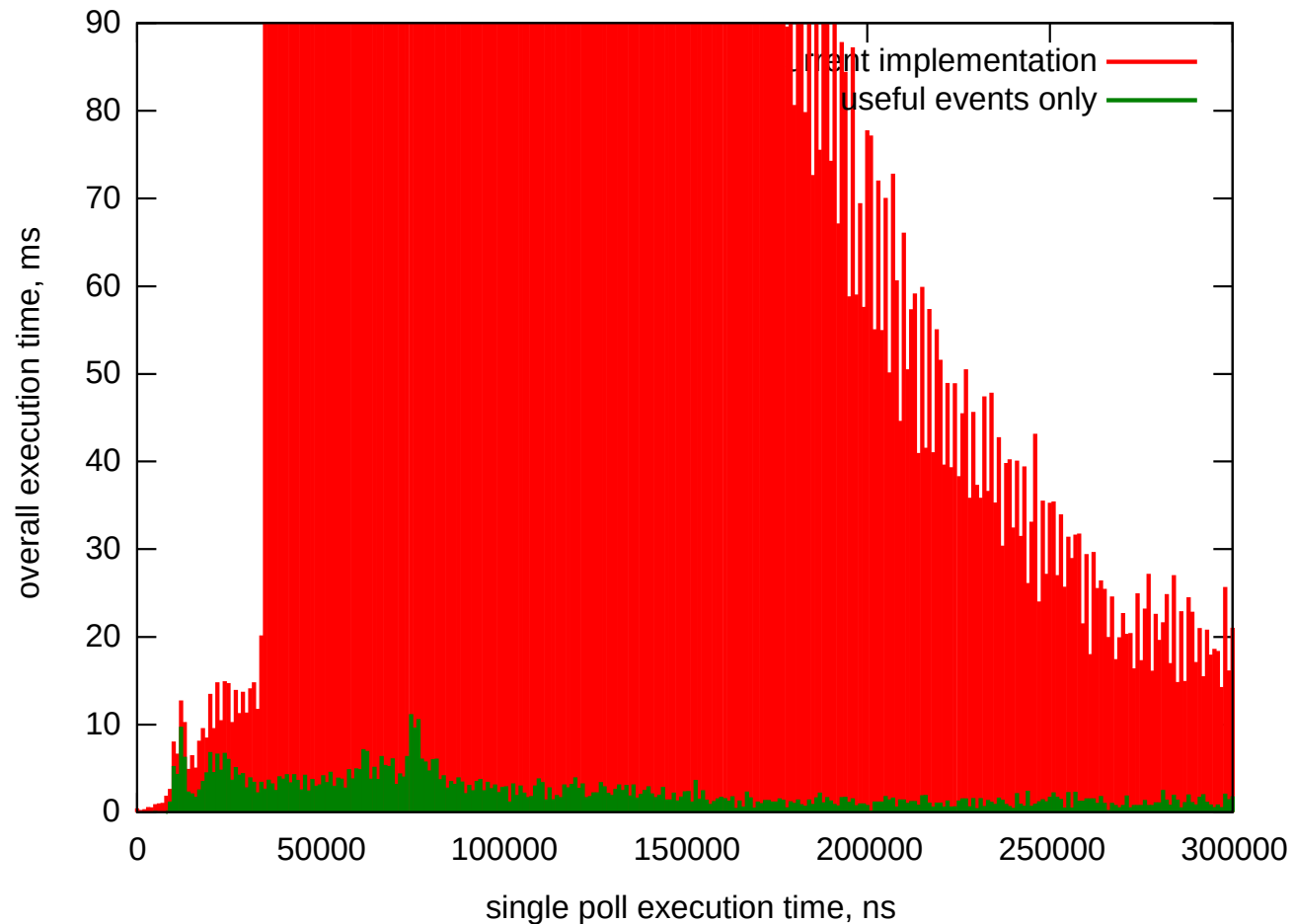
Internal performance evaluation

Overall execution times for poll events for short time range.



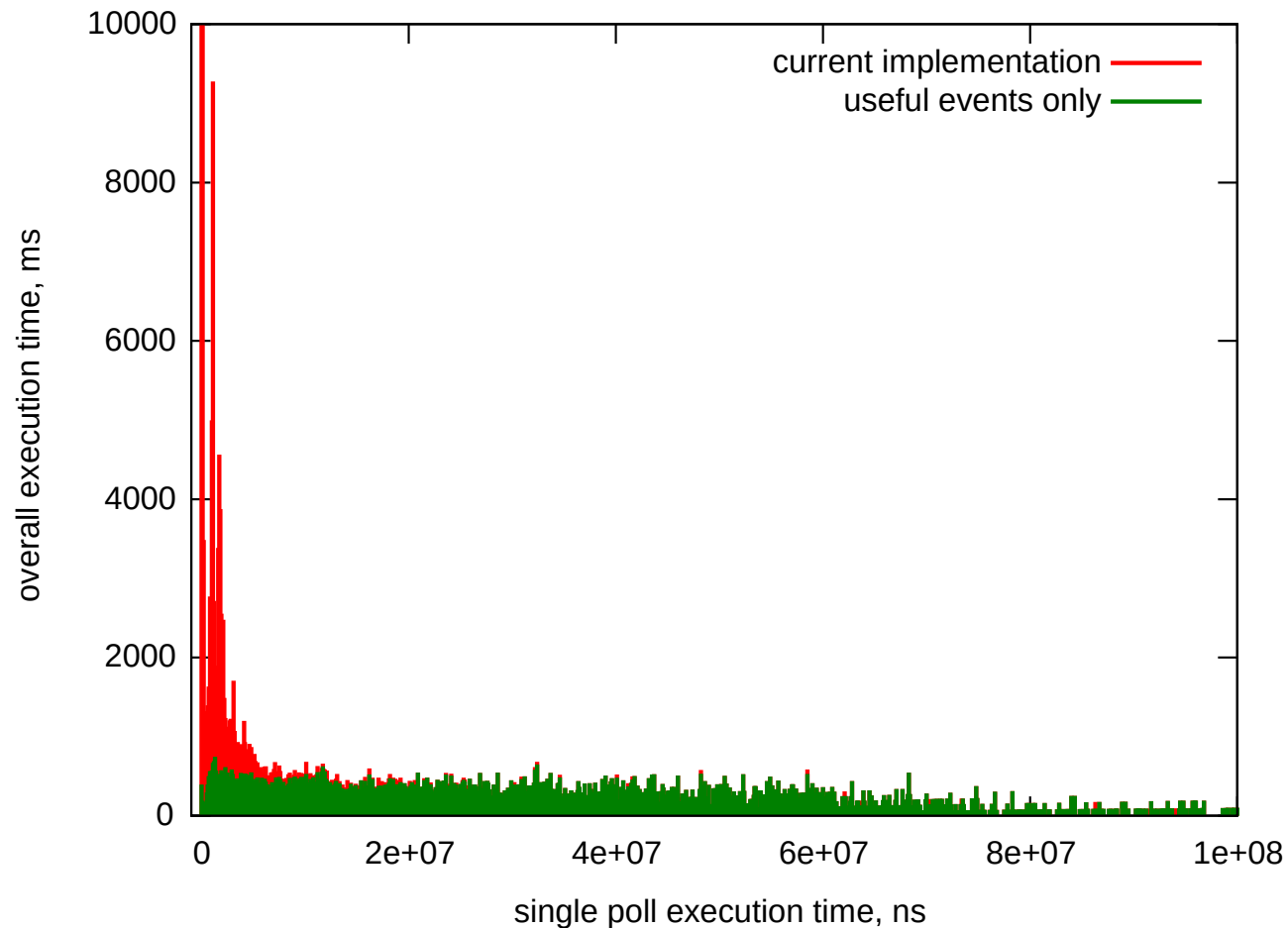
Internal performance evaluation

Comparing to usefull poll events for short time range.

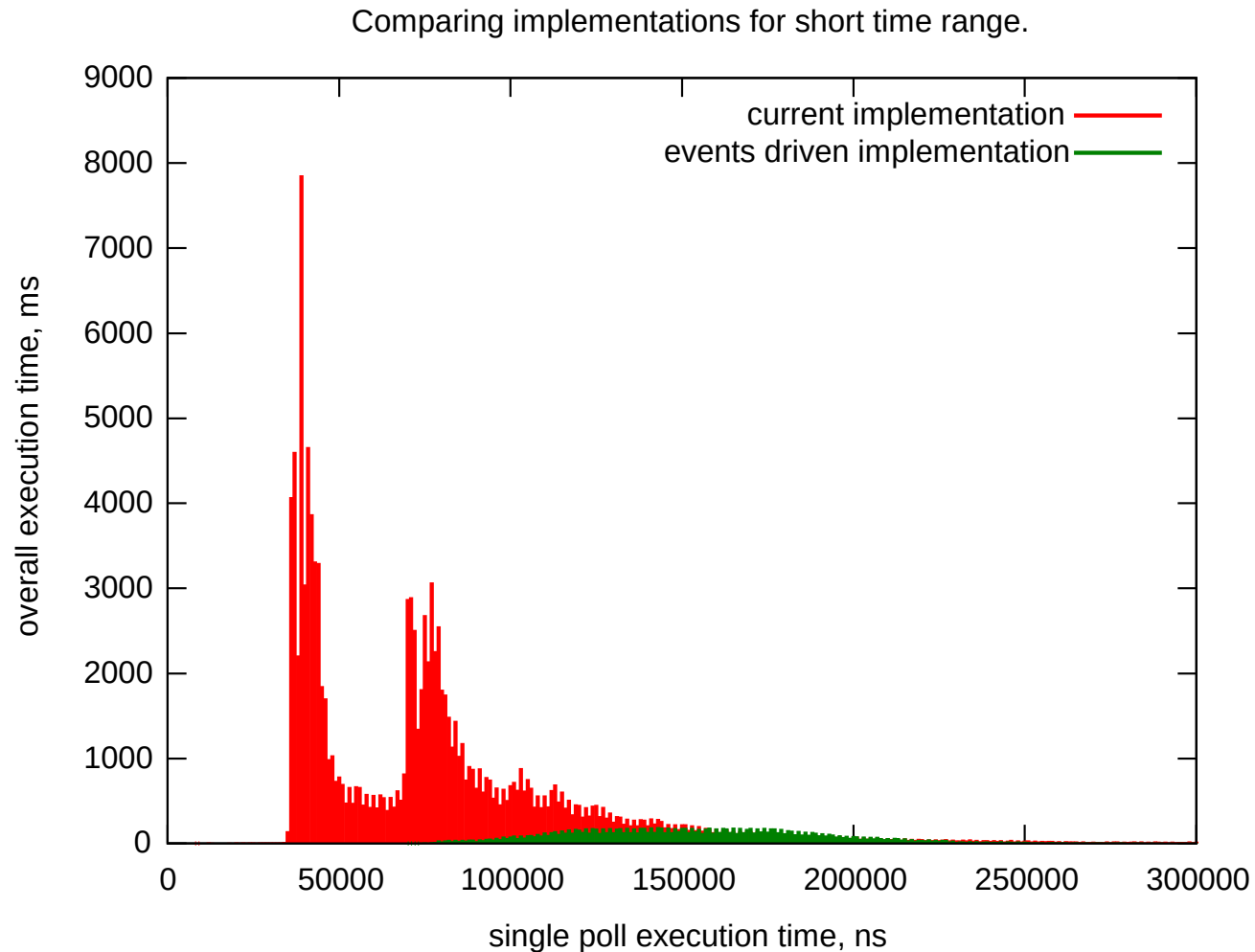


Internal performance evaluation

Comparing to useful poll events for intermediate time range.

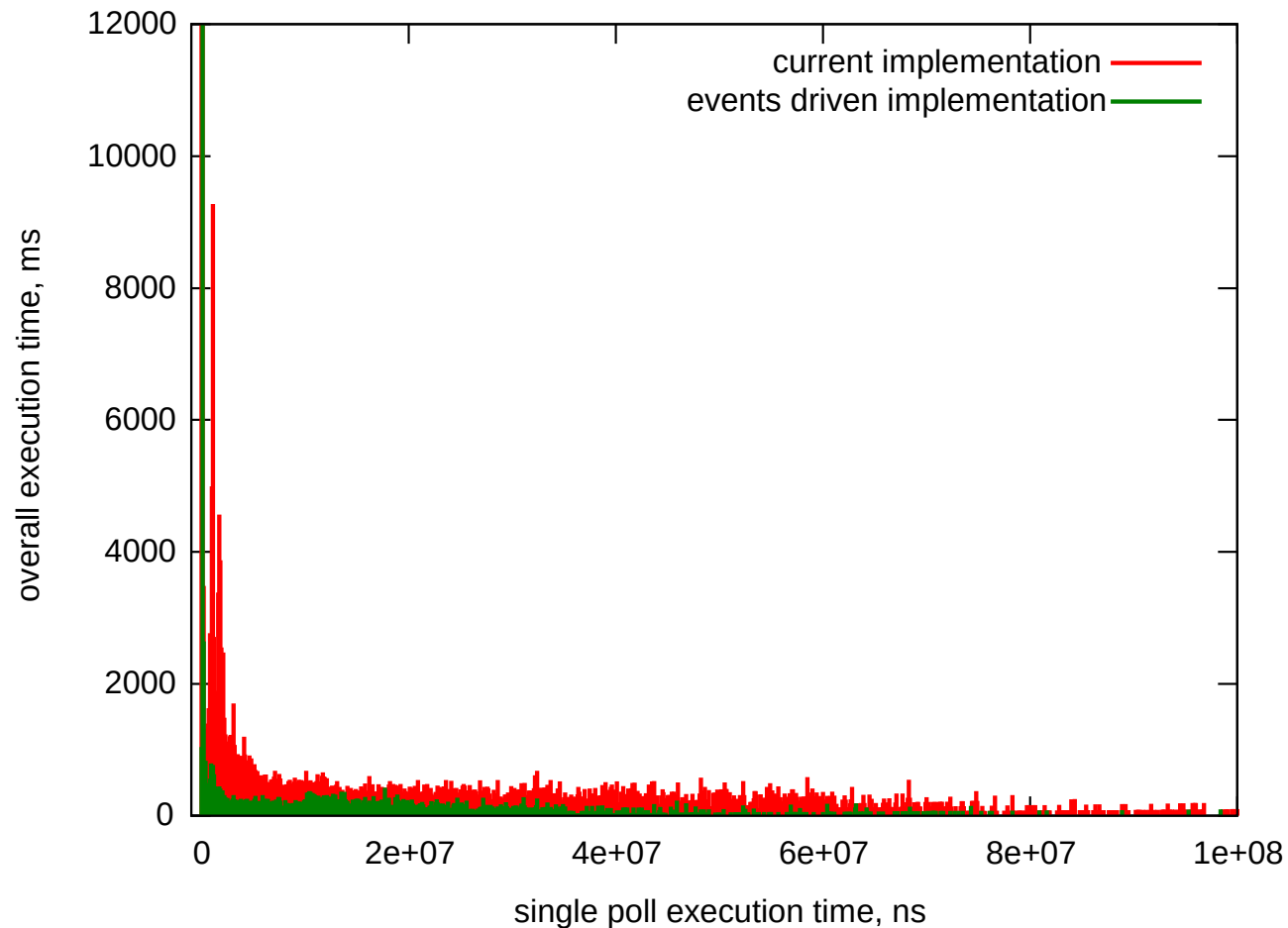


Internal performance evaluation

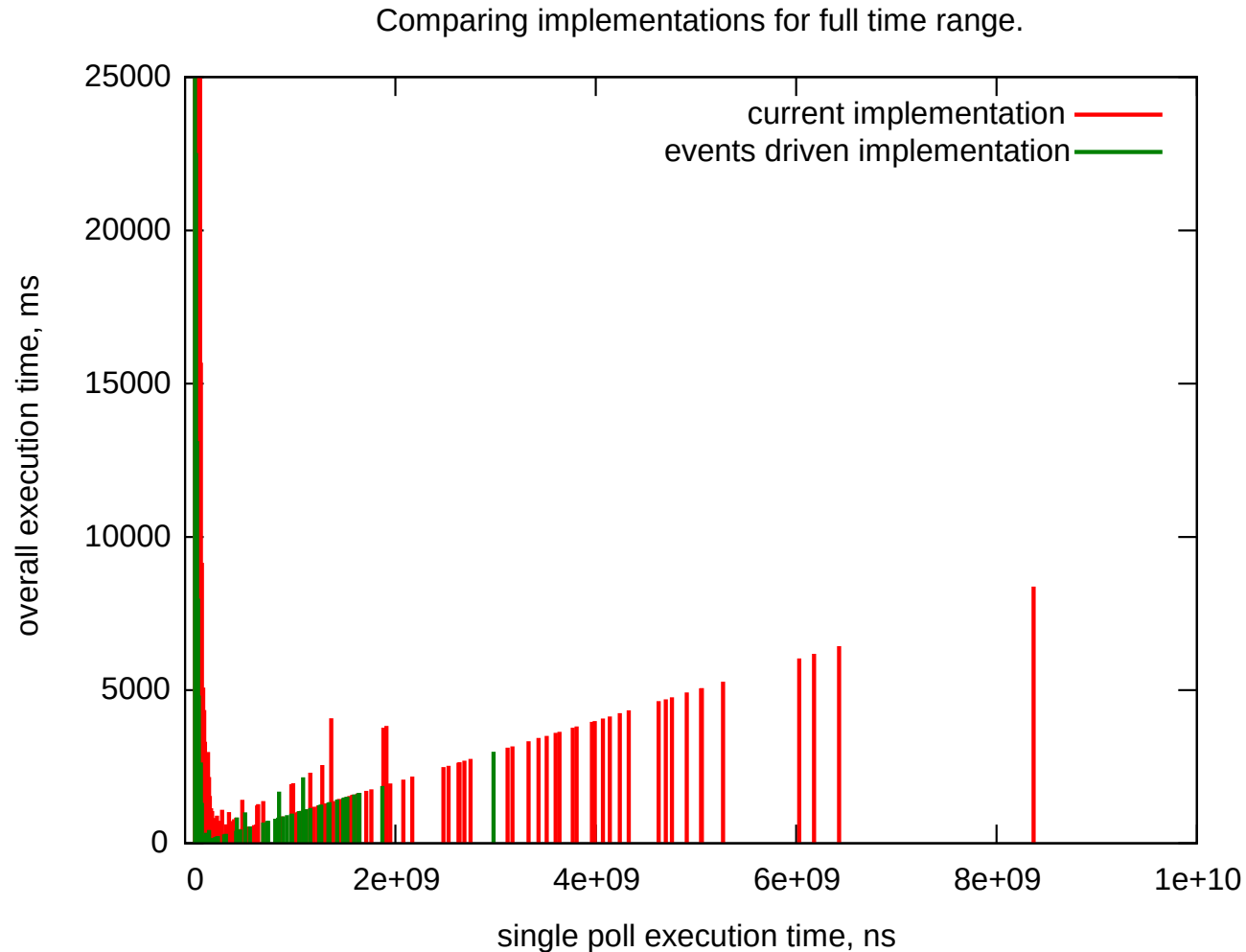


Internal performance evaluation

Comparing implementations for intermediate time range.



Internal performance evaluation



Conclusions

- Most probably it is worth to go towards event driven implementation
- But no drastic changes – evolutionary modifications.