



Contribution ID: 25

Type: Oral presentation using Zoom

Blockchain Technology for Scientific Supercomputing: Opportunities and Challenges

Thursday, 28 October 2021 20:15 (20 minutes)

Blockchain is a technology used to create distributed ledgers and to achieve consensus regarding data between distributed entities. Although the technology has been used to perform extremely computationally calculations involving cryptocurrency, its use in the scientific world has been limited.

In this paper we identify several possible use cases by which blockchain could be applied to scientific computing. These use cases include creating parallel computing systems from heterogeneous service providers, allowing for researchers to publish systems that allow service based architectures, integrating exotic technologies such as quantum computing, and archiving data and calculation chains to allow for reproducibility of results.

We further detail the limitations and deficiencies of current blockchain systems for use to aid scientific supercomputing and propose characteristics of a blockchain systems which would be necessary to support scientific supercomputing. Specifically we propose a blockchain protocol that would allow scientists to run existing scientific code in a distributed fashion.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

Primary author: WANG, Joseph (Bitquant Digital Services)

Presenter: WANG, Joseph (Bitquant Digital Services)

Session Classification: A-1: Software / Computing

Track Classification: Parallel sessions: Detectors: Session A: Software / Computing