NSF Program (either CC or CICI): CC

Program Area: Cloud

Award Number: 190444

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Project Title: Exploring Clouds for Acceleration of Science

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Quad Chart for: *E-CAS Exploring Clouds for Acceleration of Science*

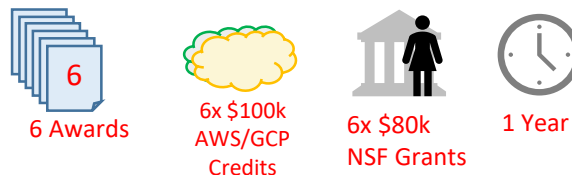## Challenge Project Seeks to Address:

- Investigate the viability of commercial clouds for leading-edge research computing and computational science supporting a range of academic disciplines
- Leverage the novel capabilities of cloud heterogeneous hardware resources and platforms, such as CPUs, GPUs and FPGAs, for scientific applications and workflows .
- Achieve the best time-to-solution for scientific applications and workflows using cloud computing.
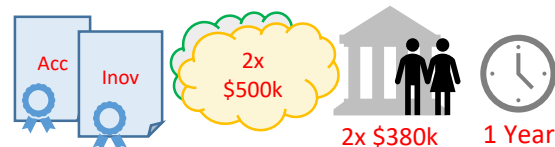
Deliverables:

- Facilitate review process and sub-award administration.
- Identify common issues across projects and cloud providers
- Identify gaps and limitations in provider capabilities
- Document patterns in software stacks and deployment practices.

Phase 1 – sponsored by AWS & GCP Credits & NSF Grants

2 projects AWS
2 projects on CGP
2 projects multi-cloud +AWS/GCP
Most projects also using XSEDE and Campus Compute allocations

6
6 Awards

6x $100k AWS/GCP Credits

6x $80k NSF Grants

1 Year

Phase 2 – Funded by NSF grants

Acc   Inov

2x $500k

2x $380k   1 Year

2x NSF Grants =< $880k each including staff and overheads for 1 year

Scientific Impact or Broader Impact:

- Demonstrator of new technologies and multi-cloud integrations
- Access to the newest technologies including GPUs, FPGAs and Machine Learning platforms
- Supporting development of 6 individual science projects
- Developing learnings for future computational research platforms using commercial clouds.

Metadata tag:
https://internet2.edu/ecas

*Updates at:
Internet2 TechEx2019, New Orleans*

*Full phase 1 review workshop:
Internet2 Global Summit 2020*