The story of Sage Weil

• 2004: summer internship at LLNL, SC’04
• 2005: summer project -> thesis topic
• 2006: OSDI’06 and SC’06
  – Lots experience with open source tools, strategies, techniques
  – Published source code licensed under LGPL
• 2007: Ph.D. defense
• 2008: Continued to work on Ceph
• 2010: Ceph Linux kernel client in 2.6.34
  – Companies demanded it
• 2011: Inktank startup
• 2014: Red Hat acquires Inktank for $175m
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Generally true?

| • Student is well-versed in open source software tool chains, strategies, and technologies |
| • Research project results in interesting infrastructure |
| • Student is able to open-source infrastructure |
| • Student is able to continue working on it after graduation |

- Companies want that infrastructure if it’s mature **Yes**

*Quite often!*
Generally true?

- Student is well-versed in open source software tool chains, strategies, and technologies
- Research project results in interesting infrastructure
- Student is able to open-source infrastructure
- Student is able to continue working on it after graduation
- Companies want that infrastructure if it’s mature
• Bridges gap between student research & open source projects
• Funded by Sage Weil endowment & corporate memberships

• Educate the next generation of OSS leadership
• Embed UCSC research in OSS culture
• Incubate work beyond graduation to reach critical mass
**Founding UCSC Faculty Members**

Carlos Maltzahn, Director, Adjunct Professor, Computer Science  
[http://users.soe.ucsc.edu/~carlosm/UCSC/Home/Home.html](http://users.soe.ucsc.edu/~carlosm/UCSC/Home/Home.html)

Scott Brandt, Vice Chancellor of Research, Professor, Computer Science  

J.J. Garcia-Luna-Aceves, Chair/Professor, Computer Engineering  
[https://www.soe.ucsc.edu/people/jj](https://www.soe.ucsc.edu/people/jj)

Lise Getoor, Associate Dean for Research, Professor, Computer Science  

Ike Nassi, Former SAP EVP & Chief Scientist, Adjunct Professor, Computer Science  
[https://www.soe.ucsc.edu/people/inassi](https://www.soe.ucsc.edu/people/inassi)

Katia Obrazcka, Graduate Director, Professor, Computer Engineering  
[https://www.soe.ucsc.edu/people/katia](https://www.soe.ucsc.edu/people/katia)

Wang-Chiew Tan, Professor, Computer Science  
[http://users.soe.ucsc.edu/~tan/](http://users.soe.ucsc.edu/~tan/)

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**44 Students**  
(38 Ph.D. students)
Open Source Experts

• Ensure that the work we do at CROSS is acceptable to the open source software community

Karen Sandler, JD, Executive Director, Software Freedom Conservancy


Sage Weil, UCSC Alum, Ceph creator, Founder & CTO, Inktank

Education:

– Goal: educate & train future OSS leadership
– Specialized courses on open source software, e.g.
  • Linux kernel programming
  • Open source software tool chains
  • Attendance: 100s of undergrad and grad students
– Guest lectures & workshops, e.g.:
  • Ally skills (in collaboration with the Ada Initiative)
  • Open source licensing
  • Maintaining OSS communities
– Programmer-in-residence program
  • Combines academic program with apprenticeship
Research

– Goal: Embed UCSC research in OSS culture

– Pair industry mentors with students and faculty
  • Provide infrastructure for regular mentor meetings
  • Provide university appointment opportunities for mentors

– Provide infrastructure for regular mentor meetings

– Support open-sourcing research prototypes (incl. what license to use)

– Support publishing open source software

– Fund a selection of projects and leverage outside funding
  • Projects can come from a variety of sources
  • Projects can take different paths
Incubation

– Goal: Research prototype -> viable OSS project
  - Project fit for other incubators, e.g. Apache, SFC
  - Resources provided by CROSS
– Highly competitive application process
  - Evaluation by CROSS Members and Faculty
– Phase 1: 3 months
  - Create out-of-box experience
– Phase 2: 1 year (postdoc)
  - Only if phase 1 successful
  - Grow diverse developer community
  - Participate in CROSS as mentor
Thank you!

Questions

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  Frank Howley, fhowley@ucsc.edu