

PRAGMA 28

Software Defined e-Science

Apr.8 - 11, 2015
Nara, Japan



PRAGMA Update

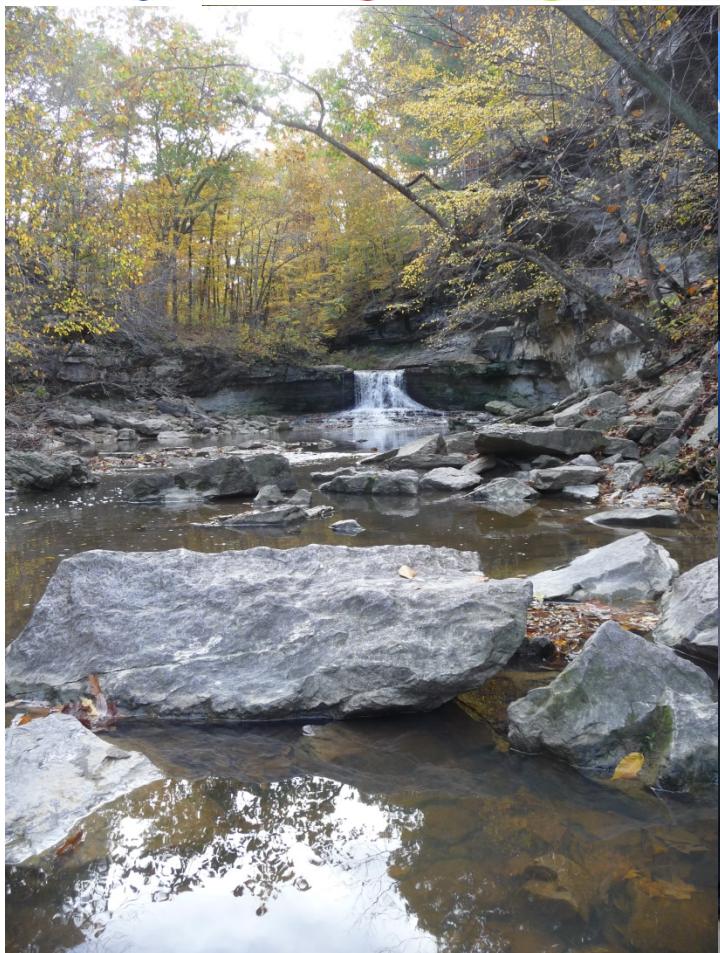
PRAGMA 28
Nara
Nara Institute of Science and Technology (NAIST)
2015.04.09

PRAGMA 27

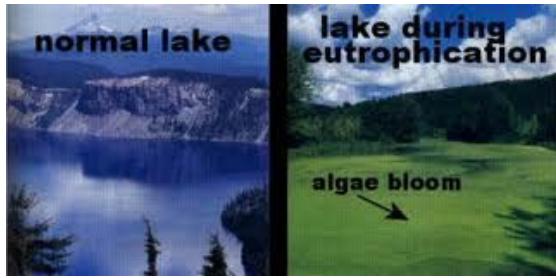
2014 *Networking in a big data world*



Bloomington, IN, USA
October 15-17



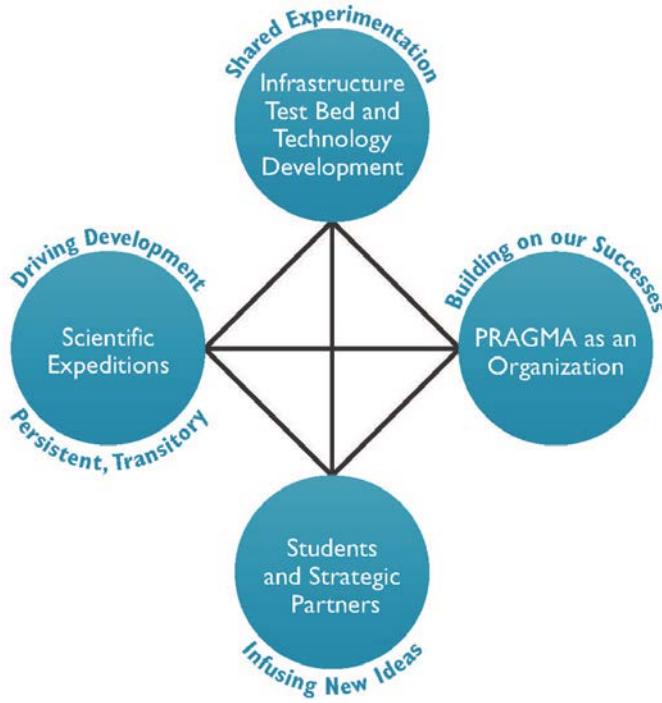
Enabling the Long Tail of Team Science



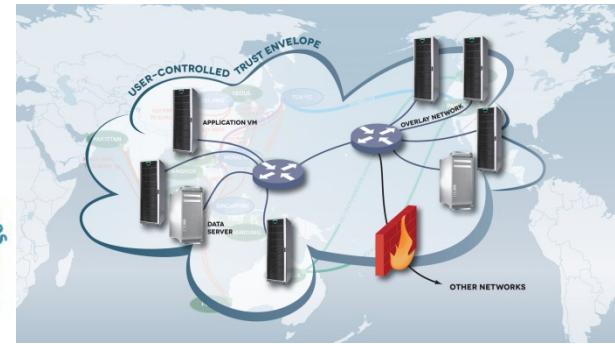
Virtual Scientific Expeditions



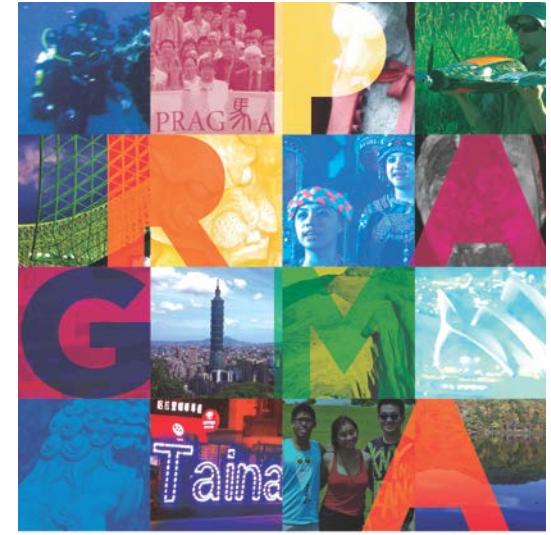
PRAGMA Students



PRAGMA Member Sites



Trust Envelop



2014

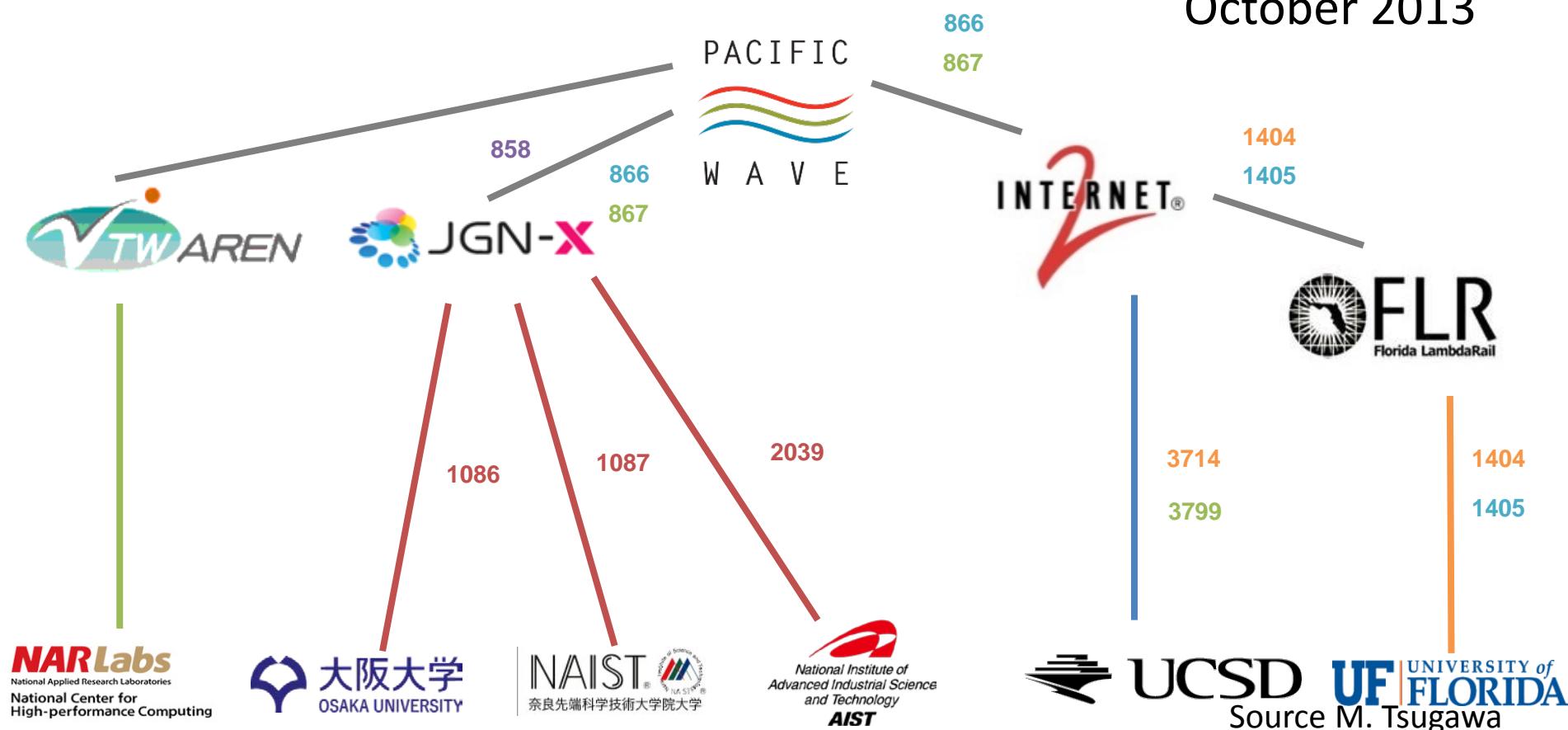
PRAGMA Community

Experimental Network Testbed (ENT) Data Plane

Conceived, Developed and Enhanced over Several Meetings

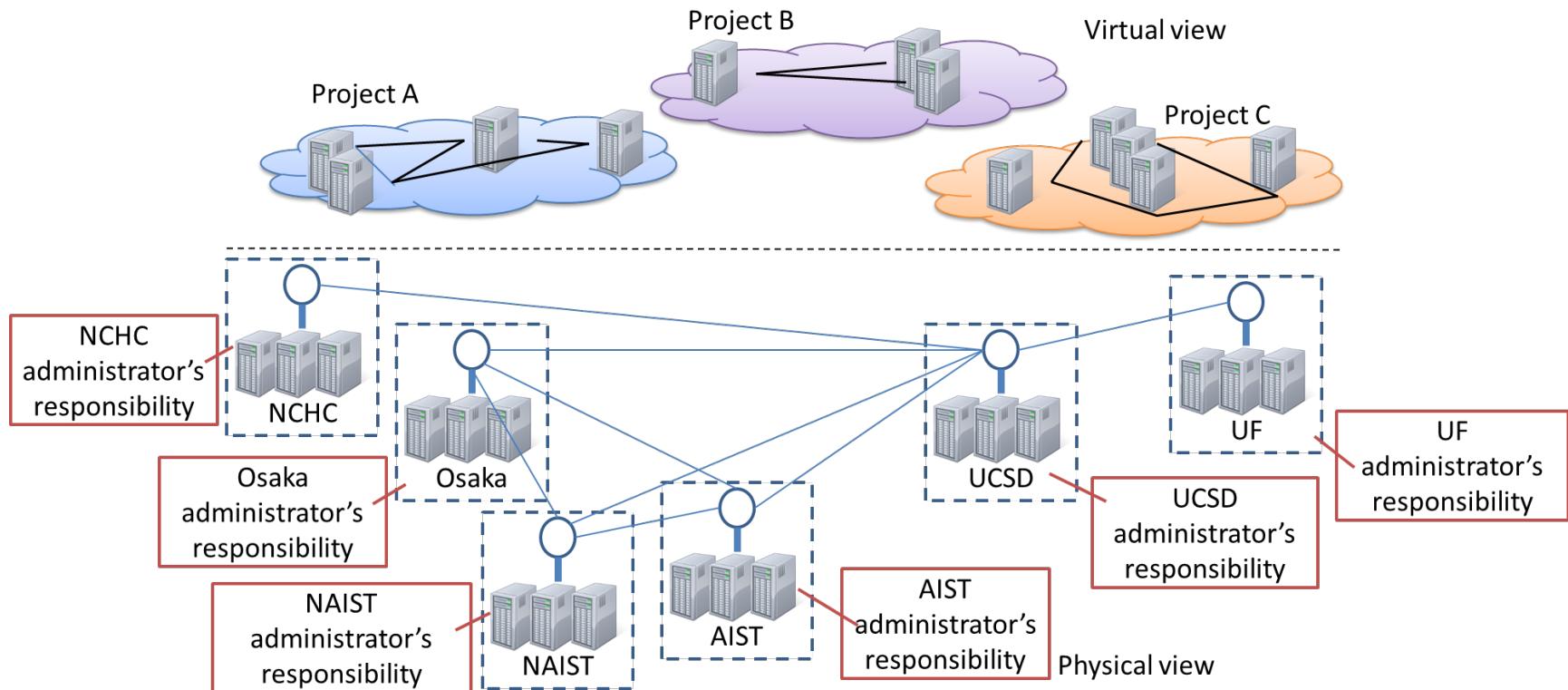
- New link to TWAREN

ENT conceived
at PRAGMA 25 CNIC
October 2013



ENT Control Plane

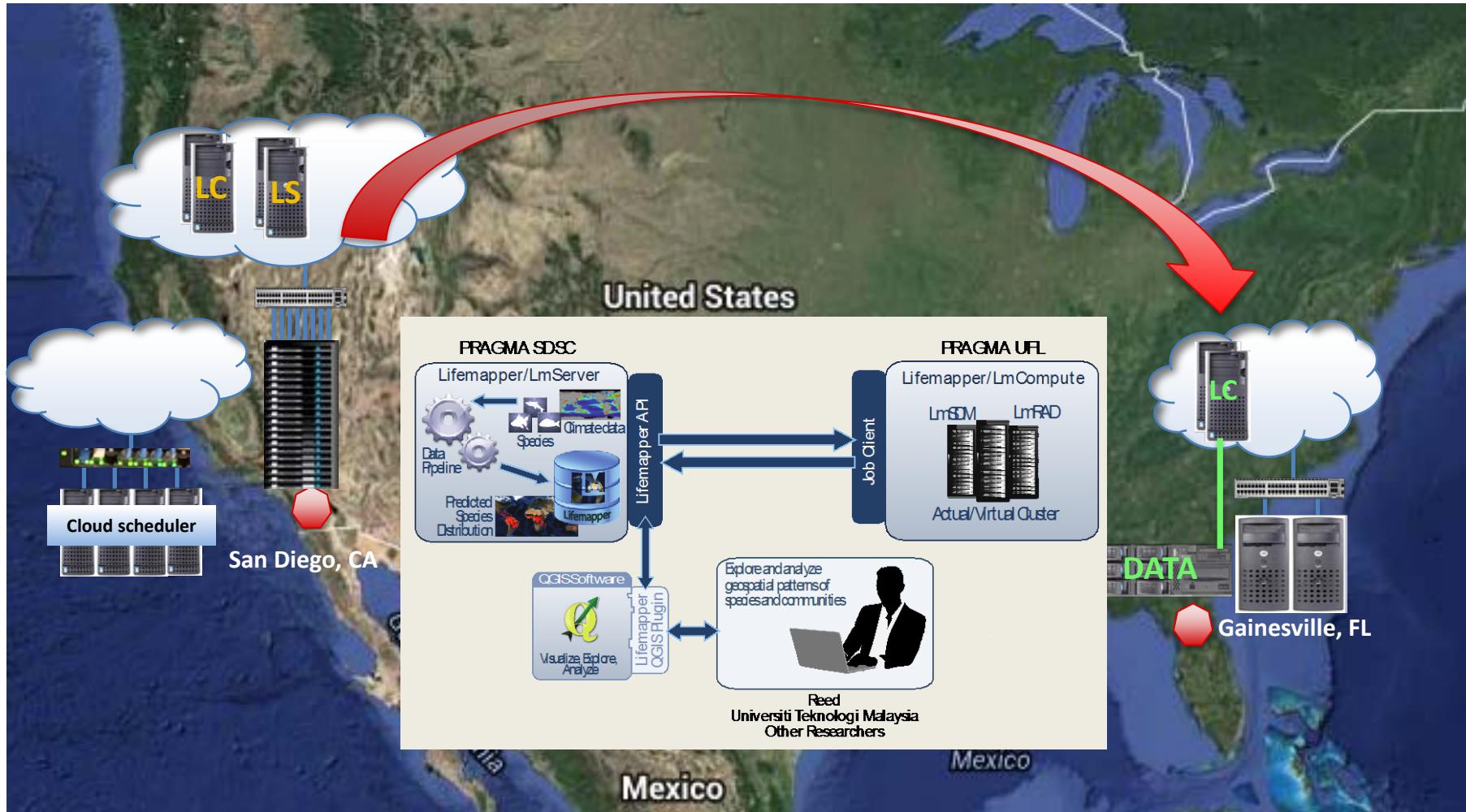
A Platform for PRAGMA Experiments



- Distributed implementation via AutoVFlow
- Support for multiple experiments

Lifemapper on PRAGMA Testbed

Development Ready for New Sites

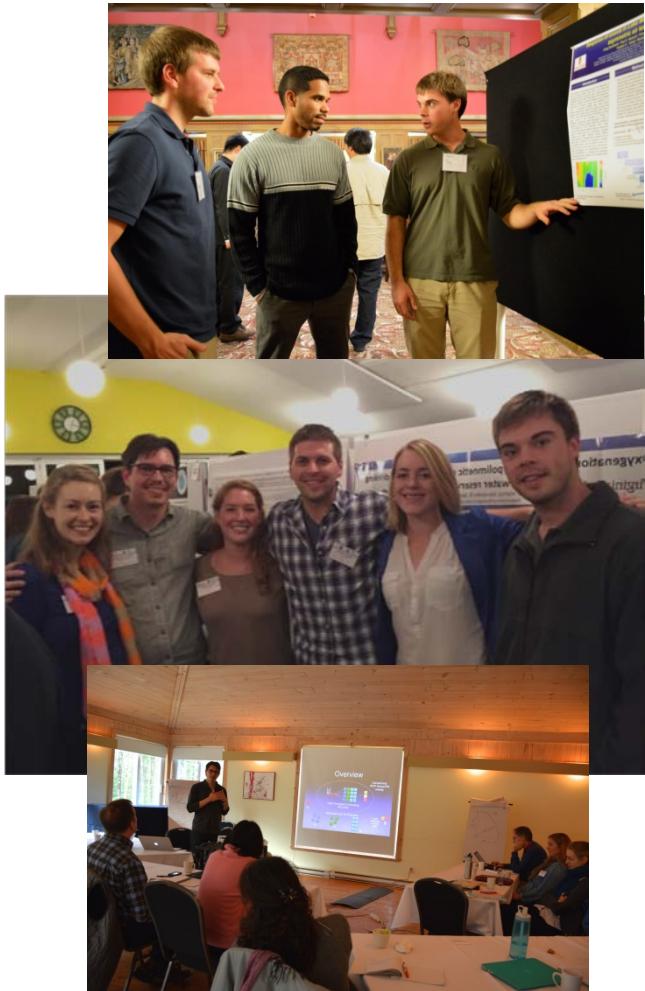


Cluster Migration using PRAGMA boot and cloud scheduler

Source: N. Williams;
Thanks: A Stewart

Lake Expedition - *Poised for Growth*

- GRAPLE: GLEON Research and PRAGMA Lake Expedition
 - Technologies enable scientists to run lake bio-physical simulations that predict the occurrence of harmful algal blooms
- User communities and joint activities
 - PRAGMA 26 & 27, GLEON 16, GLM Week
- Resources
 - Distributed HTCondor pool
 - Virtual machines + network + demo = synergy!



GLEON is 10 Years Old

Happy Birthday!

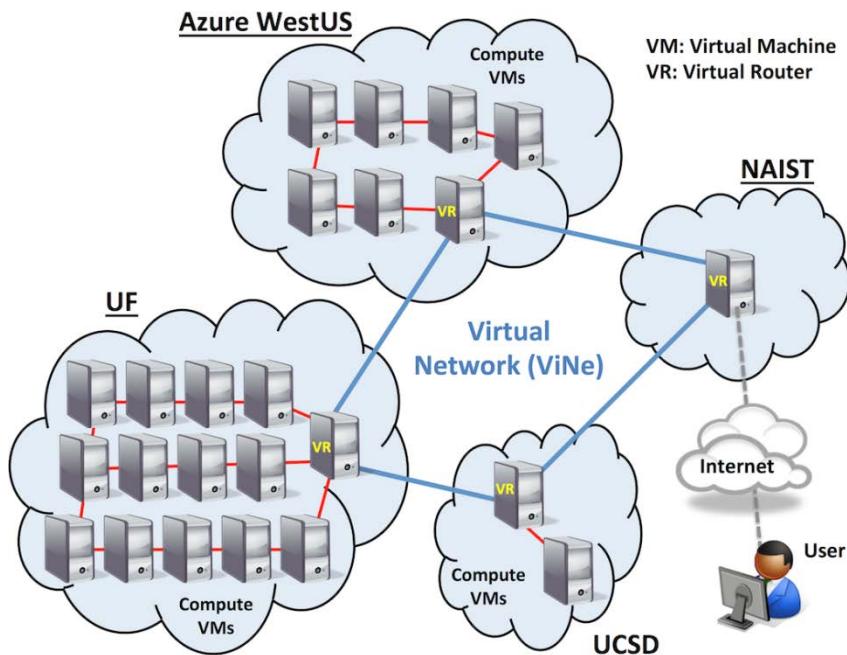
Grew out of
NCHC investments
And an early
PRAGMA expeditions
(2003 – 2004)



GLEON 17
October 12-17, 2015
Chuncheon, Korea

Fang-Pang Lin,
founding member
Paul Hanson ,
co-chair
Cayelan Carey
GLEON Student
Association
Founder
Renato Figueiredo,
First GLEON
meeting

Multi-site Cloud Virtual Screening

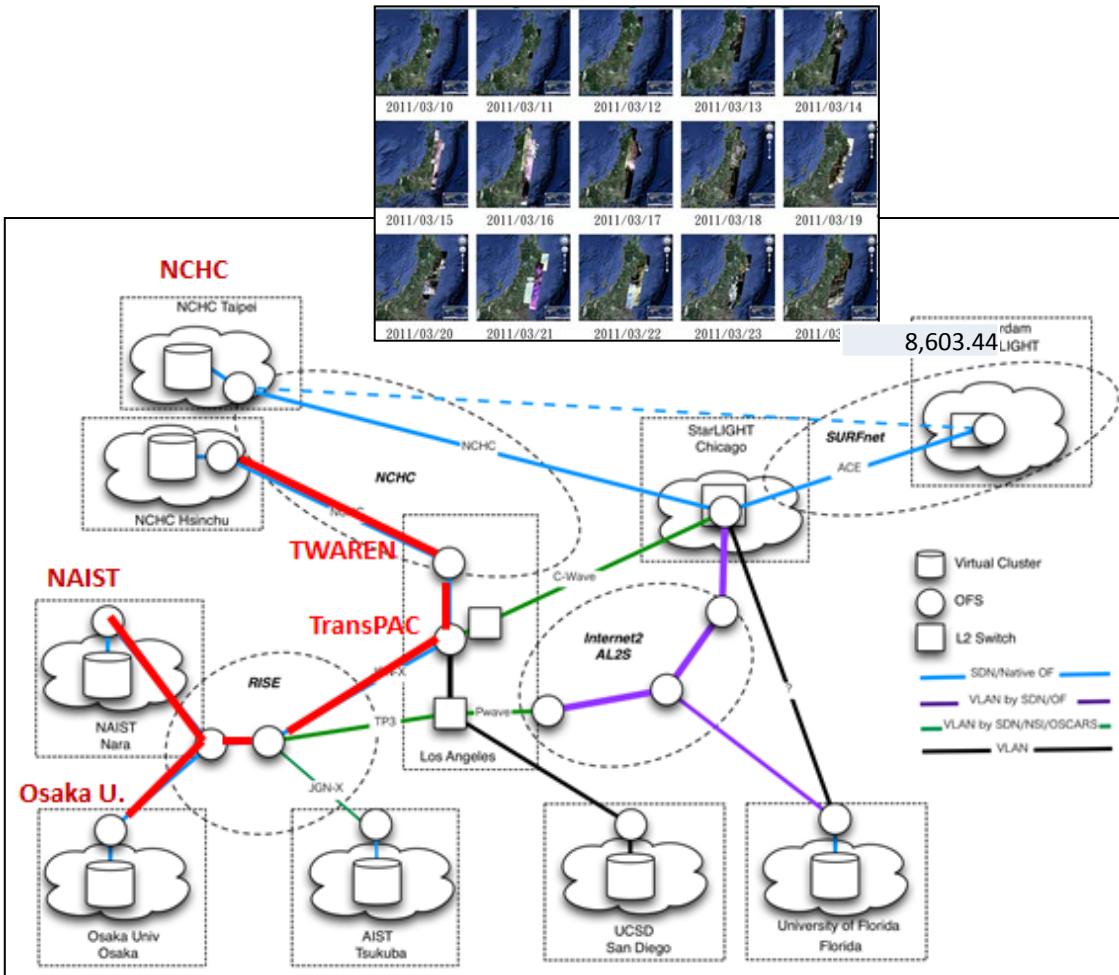


- Deployed on public and private clouds
 - Azure, UF, UCSD, NAIST
- DOCK integrated with Hadoop
- Submitted to eScience 2015
- Can leverage PRAGMA-ENT resources

Satellite Image Transmission through PRAGMA Network Testbed

A Critical Application

Collaborators: Kohei Ichikawa (NAIST), Shinji Shimojo (Osaka U.), Stoca Chang (NCHC), Li-Chi Ku(NCHC), Whey-Fone Tsai (NCHC), Bo Chen (NSPO), Fang-Pang Lin (NCHC)



- ◆ Satellite image transmission for rapid response to natural disasters, such as tsunami and earthquake is very critical in Asia Pacific areas.
- ◆ This DEMO connecting network between NAIST & Osaka U-Umeda and NCHC through access of the PRAGMA network testbed via TWAREN and TransPAC networks in oversea.
- ◆ Formosat-2 Satellite images associated with 2011 Tohoku earthquake are used as the demo case for performance study of the network testbed.



Southeast Asia International
Joint Research and Training Program
東南亞國際合作高速計算應用與網路共同研究暨培訓研習會



Kaohsiung Taiwan December 2014
10th SEAIP Meeting

Key Features of PRAGMA 28

Participate!

- Keynote: KNApSack Family Database towards Big Data Science from Cuisine to Herbal Medicine
 - Professor Shigehiko Kanaya (NAIST)
- Resources WG meet with other working groups (THIS IS AN EXPERIMENT!)
- Demos and Presentations
- Posters

Demos

Showing the Progress

- Distributing Lifemapper across the PRAGMA Infrastructure (Expedition)*
 - N. Williams, A. Stewart, A. Matsunaga (UCSD, U Kansas , U FI)
- Multi-Cloud Environment for Virtual Screening Using Private and Commercial Resources (BioScience + Resources)*
 - A. Nguyen, A. Matsunaga, K. Ichikawa, M. Tsugawa, J. Haga (UCSD, U FI, NAIST, AIST)
- A Lightweight Scheduler for the PRAGMA testbed
 - S. Smallen, N. Williams, P. Papadopoulos, M. Tsugawa, J.Fortes (UCSD, U FL)

Presentations

Ideas for Collaborations

- PRAGMA-GLEON Expedition (GRAPLE) - Lake Science on Overlay-networked Resources (with Demo)*
 - R. Figueiredo, C. Carey, P. Hanson, K. Subratie (U FL, VTU, U Wi)
- Bird Species Identification
 - J. Li, BP Yan (CNIC)
- Application of pattern recognition technology in the field of scientific birds video
 - C. Chen, BP Yan (CNIC)

Presentations 2

Ideas for Collaborations

- Virtual Screening Indonesian Herbal Database as HIV-1 Integrase Inhibitor
 - A Yanuar, W Dwi Aryati, R Riadhi Syadhi (U Indonsesia)
- Metagenomic and phylogenomic applications in studying biological and medical sciences
 - TY Yam (U HK)
- Current Progress on The Development of Cloud Computing platform to support Drug Design based on Medical Plants: Is it possible to have Cloud Services Migration
 - H. Suhartanto, A. Wibisono, A. Yanuar (U. Indonesia)
- Nationwide Operational Assessment of Hazards (NOAH): Strengthening Disaster Resilience in the Philippines.
 - Jo Brianne Briones and Donna Miranda, Project NOAH - WebGIS Component

Posters

Opportunities for Students and Collaborations

- 18 Posters
- Most are students, some undergraduate students
- Time in the program for posters
- ***Talk with students!***

PRAGMA Students Workshop

Building a Life-time Network



Presenters



Best Lightening Talk Presenters:
Presentation, Technical, Idea

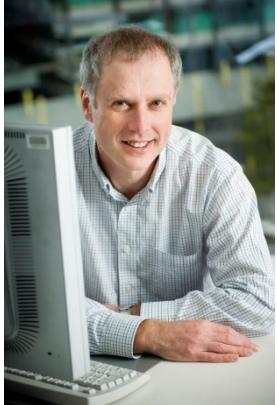


PRAGMA Students Steering Committee: Meilan Jiang, Chawanat Nakasan Quan (Gabriel) Zhou, Pongsakorn U-chupala,

Current Steering Committee Members

Providing Guidance to PRAGMA

- David Abramson, U Queensland
- Peter Arzberger, UCSD
- Kum Won Cho, KISTI
- Susumu Date, Osaka U
- Meilan Jiang, Konkuk, Student
- Karpjoo Jeong, Konkuk
- Wing Keung Kwan, HKU
- Fang-Pang Lin, NCHC
- Kai Nan, CNIC
- Beth Plale, Indiana U
- Philip Papadopoulos, UCSD
- Satoshi Sekiguchi, AIST
- Shinji Shimojo, Osaka U
- Yoshio Tanaka, AIST
- Vinh Quang Thai, IoT/VAST
- Whey-Fone Tsai, NCHC
- Putchong Uthayopas, Kasetsart U
- Habibah Wahab, USM
- Xiaohui Wei, Jilin U
- Baoping Yan, CNIC
- Quan Zhou, Indiana U, Student



David
Abramson



Peter
Arzberger



Kum Won
Cho



Susumu
Date



Meilan
Jiang



Karpjoo
Jeong



Wing Keung
Kwan

Source: T. Simas



Fang-Pang
Lin



Kai
Nan



Beth
Plale



Phil
Papadopoulos



Satoshi
Sekiguchi



Shinji
Shimojo



Yoshio
Tanaka

Source: T. Simas



Vinh Quang
Thai



Whey-Fone
Tsai



Putchong
Uthayopas



Habibah
Wahab



Xiaohui
Wei



Baoping
Yan



Quan (Gabriel)
Zhou

Source: T. Simas

Ex-Officio Members of the Steering Committee

Voices of Expertise and Experience

- Arun Agarwal
- Larry Ang
- Maxine Brown
- Royol Chitradon
- Jysoo Lee
- Sangsan Lee
- Satoshi Matsuoka
- Rick McMullen
- Radha Nandkumar
- John O'Callaghan
- Bernard Pailthorpe
- Piyawut (Joe) Srichaikul
- Jim Williams



Arun
Agarwal



Larry
Ang



Maxine
Brown



Royol
Chitradon



Jysoo
Lee



Sangsan
Lee

Source: T. Simas



Satoshi
Matsuoka



Rick
McMullen



Radha
Nandkumar



John
O'Callaghan



Bernard
Pailthorpe



Piyawut (Joe)
Srichaikul



Jim
Williams

Source: T. Simas

Steering Committee Meeting Topics

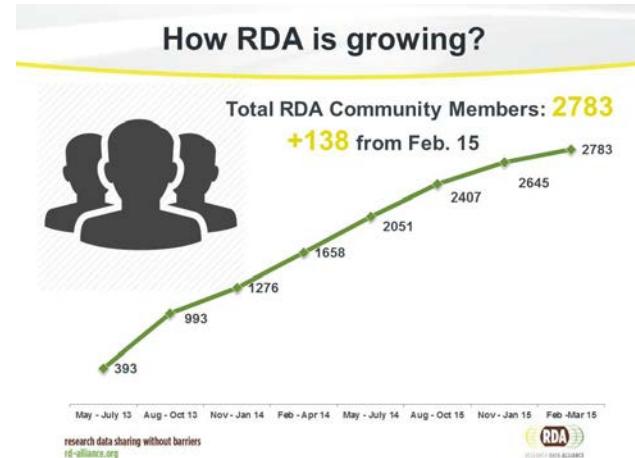
Focusing on New Opportunities

- Publications from PRAGMA workshops
- PRAGMA and the Research Data Alliance
- Rotations on Steering Committee
- Future Meetings
- New Members

Research Data Alliance (RDA)

Research Data Sharing without barriers

- Global community-driven organization launched in March 2013 to accelerate data-driven innovation
- RDA focus is on building social, organizational and technical infrastructure to
 - *Reduce barriers to data sharing and exchange*
 - *Accelerate development of coordinated global data infrastructure*



Plenary 2, Fall 2013
National Academy of Science, DC



RDA Engages International Community *to address data sharing*

- Birds-of-a-Feather – groups meeting at Plenaries to gauge broader interest in a topic
- Interest Groups – longer-lived discussion forums that spawn Working Groups as specific pieces of needed infrastructure are identified.
- Working Groups – focused 12-18 month efforts to build, adopt, and use specific pieces of infrastructure
 - Code, policy, infrastructure, standards, or best practices that are adopted and used by communities to enable data sharing
 - “Harvestable” efforts for which 12-18 months of work can eliminate a roadblock
 - Efforts for which working scientists and researchers can start today

Today products are ready for discussion, adoption, and use, <https://rd-alliance.org/outcomes>

Data Type Registries

Source: Beth Plale

Question to PRAGMA Community

PRAGMA's progress is by “doing”

Can PRAGMA be a testbed to prototype a data sharing proof of concept using RDA early outputs?



Discussion between Satoshi Sekiguchi and Beth Plale

Announcements



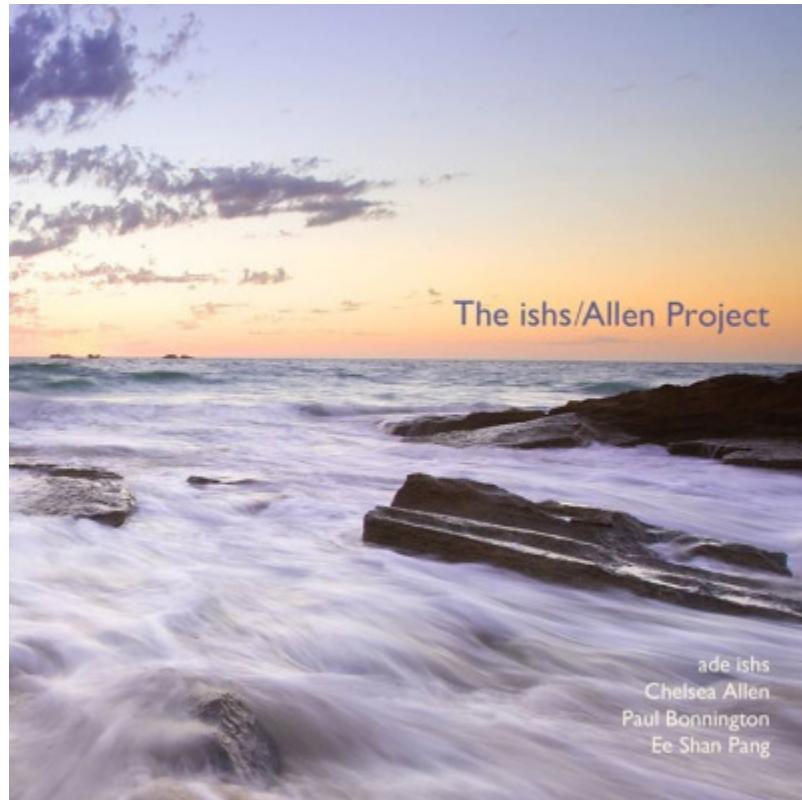
- Satoshi Sekiguchi:
Director General of the
Department of
Information Technology
and Human Factors



- Yoshio Tanaka: Director
of Information
Technology Research
Institute

PRAGMA Participants' Other Talents

Follow your dreams

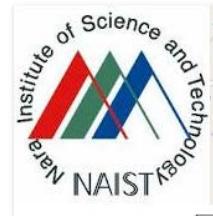


Heard them at PRAGMA 22 in Melbourne

Thank You to Hosts

Providing the Venue for Success

- Nara Institution of Science and Technology
 - Graduate School of Information Science
- Cybermedia Center, Osaka University, and National Institute of Information and Communications Technology (NICT) [co-organizers with NAIST of Pre-Workshop meetings at Knowledge Capital in Grand Front Osaka]



KNOWLEDGE CAPITAL 



Thank You to Sponsors

Enhancing the Experience

- ITOCHU Techno-Solutions Corporation (CTC)
- Arista Networks, Inc.
- Silicon Graphics Int'l Corp.
- NEC Corporation
- Nippon Telegraph and Telephone Corp. (NTT)
- Support Center for Advanced Telecommunications Technology Research, Foundation (SCAT)



Thank you to the Local Chair and Co-Chair



And Program Committee

- Jason Haga (National Institute of Advanced Industrial Science and Technology)
- Yusuke Tanimura (National Institute of Advanced Industrial Science and Technology)
- Kevin Dong (Chinese Academy of Science)
- Beth Plale (Indiana University)
Putchong Uthayopas (Kasetsart University)
- Meilan Jiang (Konkuk University)
- Kohei Ichikawa (Nara Institute of Science and Technology)
- Hiroaki Yamanaka (National Institute of Information and Communications Technology)
- Yasuhiro Watashiba (Osaka University)
- Yoshiyuki Kido (Osaka University)
Susumu Date (Osaka University)
- Prapaporn Rattanatamrong (Thammasat University)
- Luca Clementi (University of California, San Diego)
- Heru Suhartanto (Universitas Indonesia)
- Mauricio Tsugawa (University of Florida)

Thank You and Your Sponsors

Your Participation Makes PRAGMA a Success

Personal Thanks to the US National Science Foundation

Enjoy Nara!

