

Rutgers CI: Who we are

1. The combination of Rutgers Discovery and Informatics Institute (RDI2) and the Center for Ocean Observing Leadership (COOL) have combined our IT and ocean observing experience to form Rutgers CI
2. Rutgers CI is charged with the long term operation and maintenance of OOI Net

Rutgers Discovery Informatics Institute: RDI²

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COASTAL OCEAN OBSERVATION LAB

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Rutgers CI: Short term activities

1. Participation on gap filling, testing and acceptance teams for OOI Net Construction through Feb 28, 2015
2. Transition of OOI CI Operations and Maintenance to Rutgers through Dec. 31, 2014
3. Preparation of long term CI O&M proposal for a Jan 1, 2015 start

Rutgers Discovery Informatics Institute: RDI²

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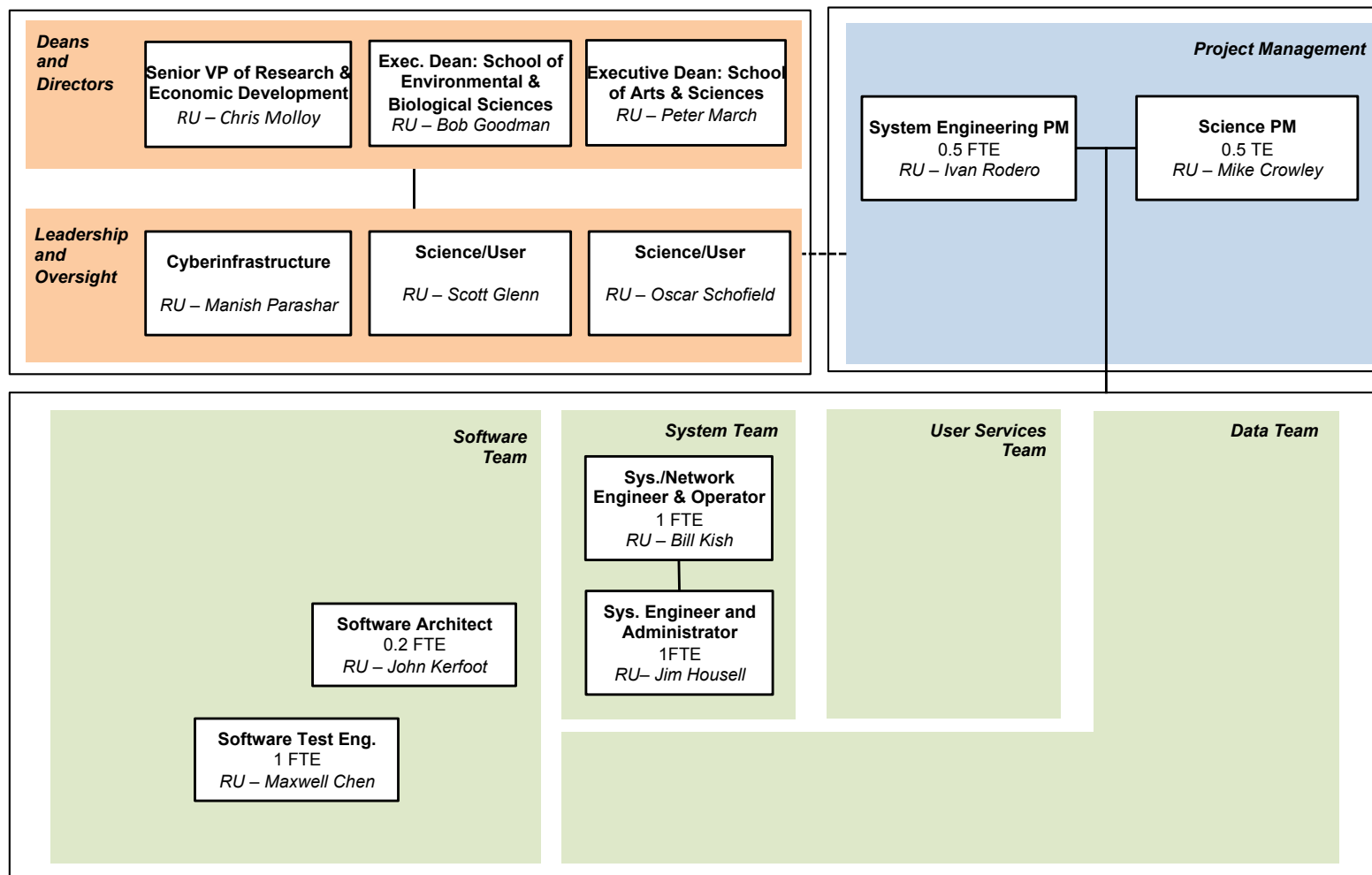
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Rutgers CI Transition Swim Lanes Overview

1. Program Management & Community Engagement
2. CI Network Architecture
3. Hardware/Software Transition from UCSD
4. Data Management
5. UX/UI Development
6. System Management & Testing
7. O&M Preparations

Current Rutgers CI Team



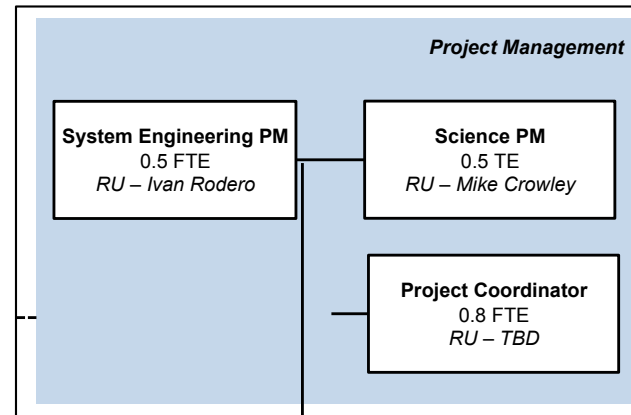
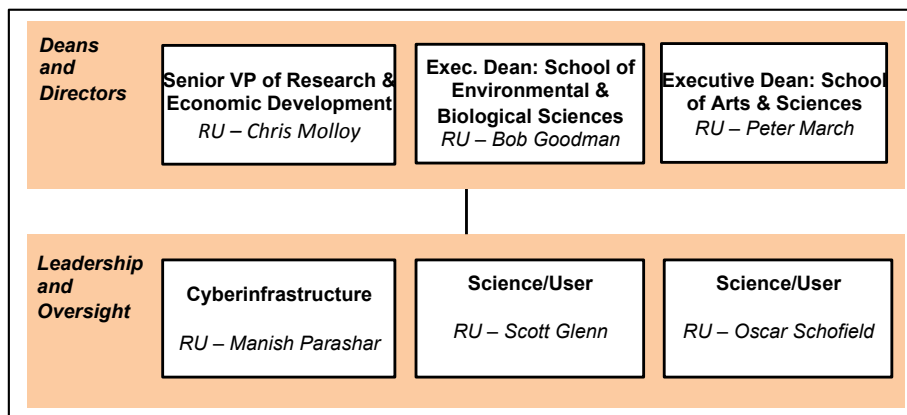
Rutgers Support

Management: 1.8 FTE

Operation: 12 FTEs

Envisioned Rutgers CI Team

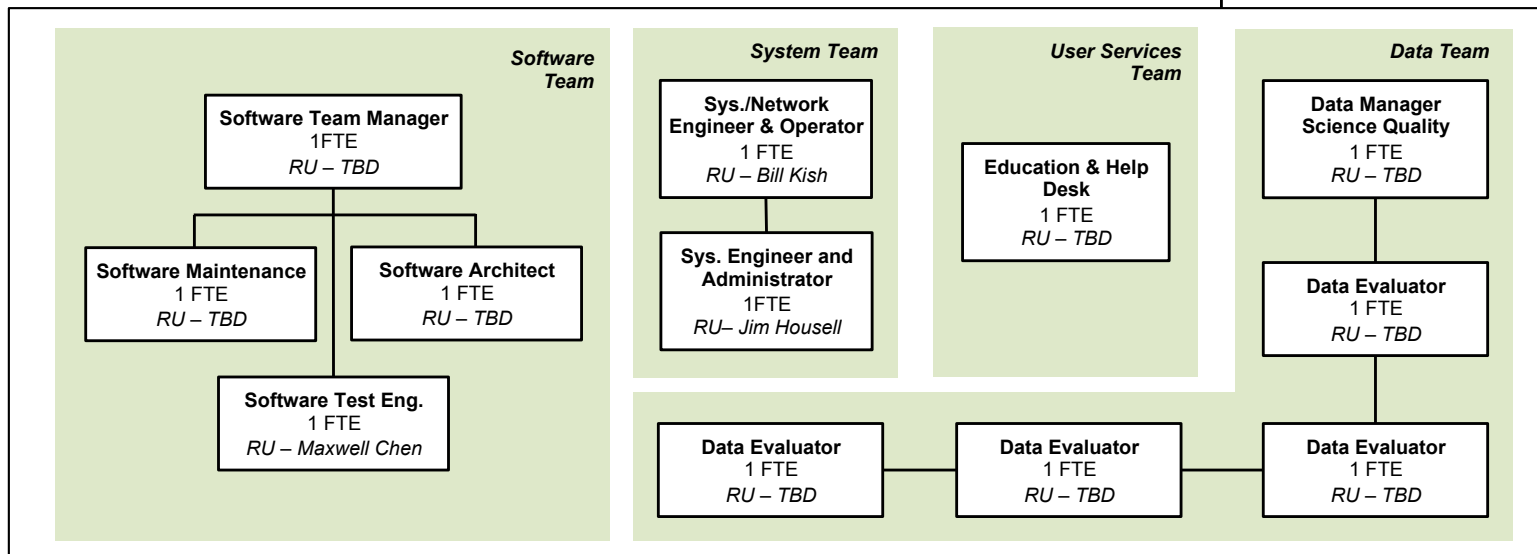
Rutgers Support



COL ←

OOI- Rutgers Support

OOI Support



Rutgers Support

Management: 1.8 FTE

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Rutgers CI Integration & Outreach

Week of:	Project Management Activities
July 1	Rutgers CI announced
July 7	Original transition proposal submitted, uFrame SOA announced
July 14	uFrame Kickoff at COL
July 21	OCB User Engagement Meeting at WHOI
July 28	CI/EPE Planning Meeting at COL
August 4	MIO meeting at WHOI
August 11	uFrame Planning Meeting Omaha, UX/UI proposal submitted
August 18	MIO meetings at UW and OSU
August 25	Development Laptops ordered for uFrame team
Sept 1	Project Scientist Webex on Data Management
Sept 8	COL visit to Rutgers
Sept 15	uFrame system deployment, OMC/MIO outreach
Sept 22	OOI Vocabulary Review
Sept 29	OOSC meeting at Rutgers

Network Architecture

1. The ultimate goal is defining a new network architecture that can satisfy OOI needs
 - Based on requirements from OMCs/MIOs (e.g., bandwidth, latency)
 - Simplify architecture and management as much as possible
 - Minimize disruptions during transition, e.g., retain IP space / configurations

2. Current status efforts
 - Replicating existing network architecture to minimize disruption (i.e., Palo Alto solution)
 - Define longer-term network architecture
 - Understanding as-built network architecture
 - Understanding network configurations
 - Working under the assumption of 250TB/year data

3. Key blockers/steps moving ahead are:
 - Information of the as-build OOI network architecture
 - Admin access to network elements, authentication information, RSA box, etc.
 - Capacity, capabilities QoS requirements

HW/SW Transition

1. The transition of HW/SW to Rutgers includes operating the services currently running at UCSD and providing storage capabilities

2. Current Status
 - Deployed a temporary environment for transitioning critical services from UCSD to Rutgers
 - Main critical services are Confluence, JIRA, CROWD, LDAP
 - Dell R720 servers (6 units) have been deployed. VMware environment for hosting VMs
 - Synology disk array shipped to UCSD to mirror existing data at UCS
 - Deployed execution and test environment to support construction at Raytheon
 - UFrame environment deployed under ooi.rutgers.edu / ooinet.org
 - Ingesting data from OMC's via rsync

3. Key steps moving ahead
 - Receive VMs from UCSD and operate services at Rutgers
 - Acquire funding for procuring most of the hardware (e.g., Compellent)
 - Receive existing UCSD hardware for completing transition.
 - Reuse for testing environment/redundancy
 - Disaster management of data

Data Management

1. Vocabularies
 1. Goal is to have a completely updated vocabulary describing OOI to the user communities
 2. We have reviewed existing vocabularies and ONC approach, the EPE vocabulary was chosen as the most viable candidate, we confirmed with GUI developers and restructured the software vocabulary hierarchy with the system architect
 3. We are going to work with RSN to refine the RSN hierarchy to match the new structure

Data Management continued

3. QA/QC
 1. Goal is to augment automated QA/QC with HITL QA/QC performed by four data evaluators led by a data manager at Rutgers who also interacts with the Marine IOs and SMEs as necessary
 2. Reviewed existing documentation and discussed QA/QC plans with marine IOs, revised the CONOPS and informed GUI use cases, and will perform first spot checks of Pioneer data this week
 3. The challenge is completing the automated uFrame algorithms and HITL QA/QC GUIs, and hiring/training of data evaluators for commissioning
4. Data infrastructure
 1. Compellent storage solution, scalable up to 2 Petabytes. Initial deployment of ~700TB
 2. Based on data requirement provided by COL: ~250TB/year (updated to : ~300TB/year)
 3. Assumption of local buffering at OMCs and long-term archival at National Archives

UX/UI Development

1. The ultimate goals of the UX/UI development are:
 1. Integration with uFrame and hosted at Rutgers
 2. Four primary interfaces including:
 1. Science Users
 2. Alerts and Alarms interface
 3. Command and Control of RSN Cabled Network
 4. Asset Management
2. To date, use cases have been written, several wireframes completed and a high level knowledge of interface with uFrame is understood.
 1. ASA is now in stop work.
3. Key steps moving ahead
 1. Acquire funding
 2. Rebaseline the schedule & expectations
 3. Detail integration with uFrame

System Management & Testing

1. System management and testing includes different elements
 - Hardware: HW monitoring and testing. Integrity with system tools, monitoring with Dell iDRAC7
 - System Software: Periodic verification of system software (updated system version, patches, etc.)
 - Networking: VPN testing and monitoring via Panorama at the shorter term
 - uFrame software testing. After user interface is integrated, testers may use the user interface (visualization, command and control)

2. Ongoing software testing plan during integration phase
 - Identified deployment lifecycle
 - Drivers and algorithms tested by development team and verified by experts
 - Prototype GUIs/command line interfaces for uFrame and the data products

3. Key steps moving ahead are:
 - OOI requirements to be formally verified
 - Validation Test Plans and Test Procedures
 - Performance and load testing of the uFrame framework, and stability testing of the integrated CI

2015 O&M Preparation

1. Contributing authors to the new CONOPS for O&M
2. Reviews and updates of Use Cases, 37 new UX/UI use cases
3. Updates and review of the system Requirements
4. Updates and reviews of the System Engineering Mgmt Plan (SEMP)
5. Proposals for Construction, transition O&M, and 2.33 year CI O&M