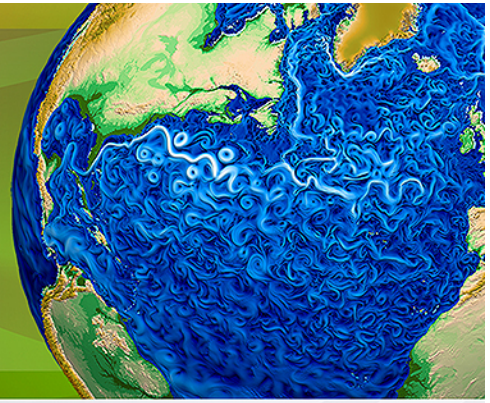
ACME
Accelerated Climate Modeling for Energy



Agile Project Management – Perspective and Status

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Overview

- ACME Achievements
  - Transparent Communication Mechanism
  - Adoption of Agile Project Management Methodology
  - Agile Model Development Cycle
- Status on Realization and Compliance
  - Communication Status
  - ACME Roadmaps, Group's Roadmaps, Plans and Quarterly Reports
  - JIRA implementation of Quarterly Plans

Achievement: Transparent Communication

ACME Decisions and Accomplishments Towards Transparent Communication Mechanisms

- Confluence
  - Wiki, Documentation, Calendar, Meeting Notes, Roadmaps and Planning, Reports,
    - comments and notifications
    - transparent and integrated
- JIRA
  - online task tracking integrated with Confluence - open to all and transparent
- GoToMeeting
  - screen sharing conferencing - communication tool open to everyone

Achievement: Adoption of Agile Methodology

Agile project management adopted in ACME

- Continuous improvement
  - Iterative and incremental planning
  - Flexible realization, task teams oriented
  - Accountability for deliverables at quarterly intervals
  - Retrospective, and improvement to planning
- Rapid development through
  - Short living tasks (2 to 6 weeks)
- Requiring a deliverable
  - Every task has a deliverable
    - code, documentation, design plan doc, journal article, published data, diagnostic test webpage
- Small development task teams with designated task leader
  - ACME organization is structured around tasks
- Task tracking online software – JIRA, provides
  - Focused planning
  - Transparency
  - Automated reporting
  - Project oversight
  - Dashboards overviews

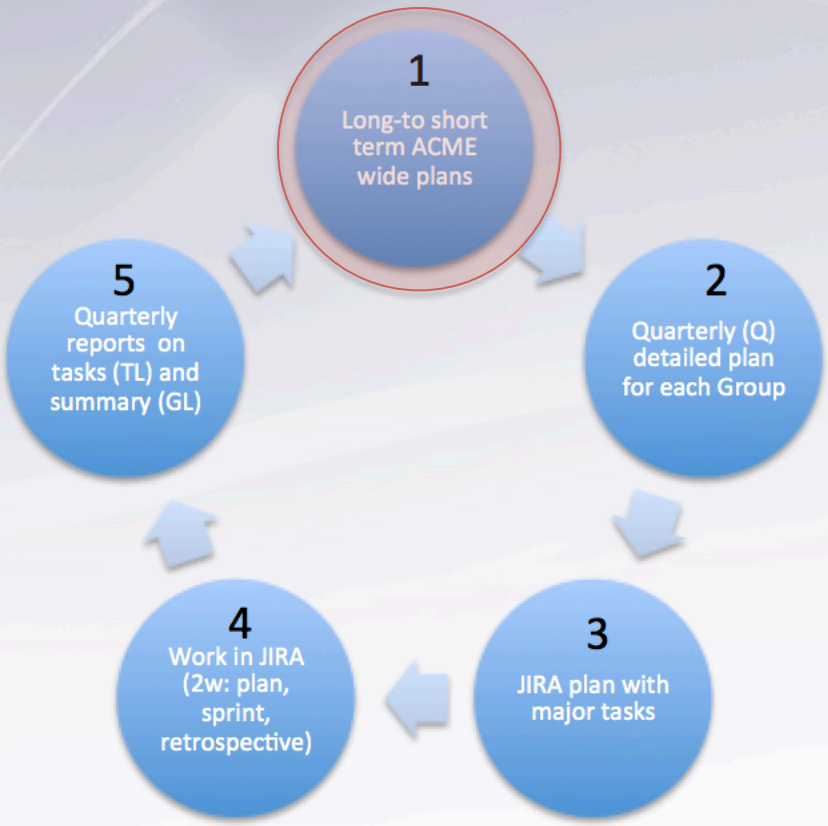
Achievement: Agile Development Cycle

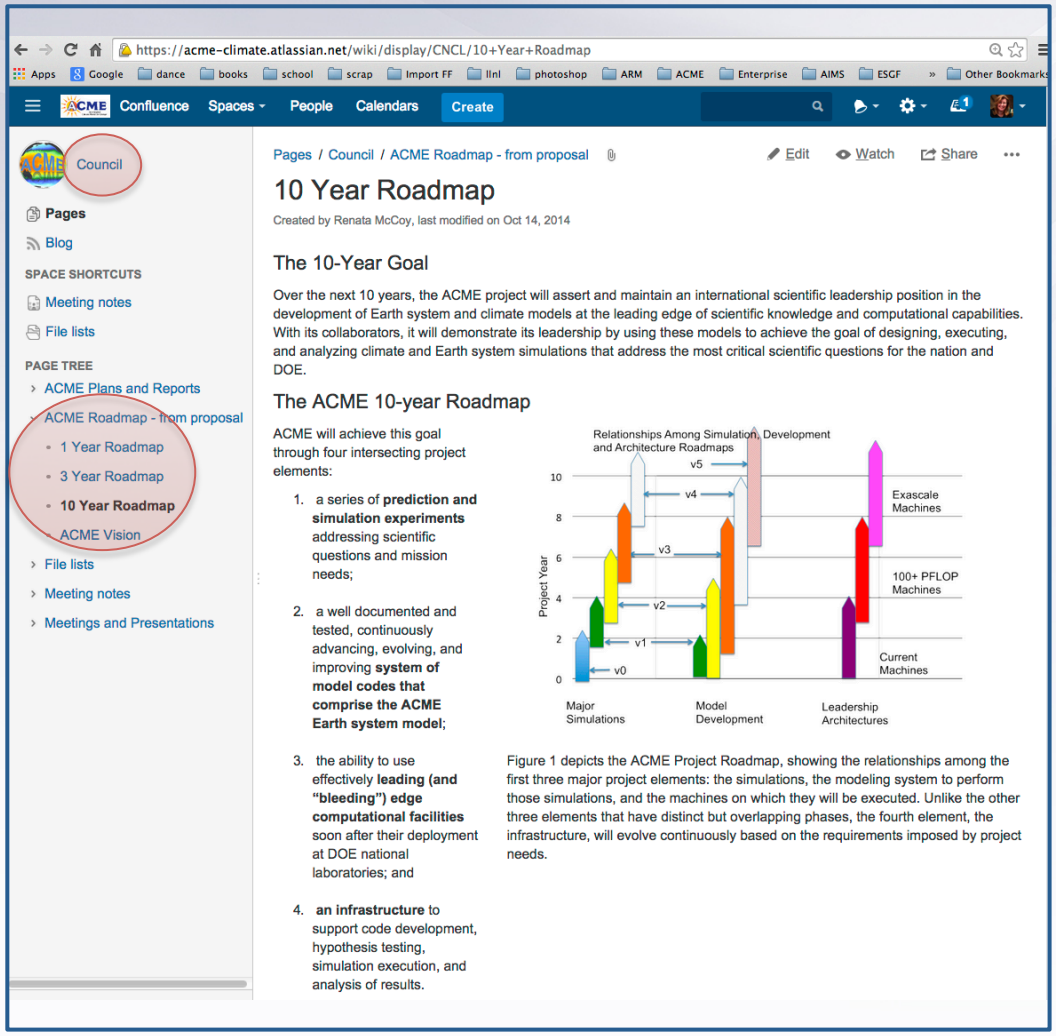
1. Long to short term (10-Year, 3-Year, 1-Year) Roadmaps (AL)
2. Short term (Q) plans (GL)
3. JIRA plan with major tasks (GL/TL)
4. JIRA sprint/retrospective (TL)
5. Quarterly Reports: Tasks (TL) and Summary by Group Leaders (GL)

Rebase #1 and Repeat

GL: Group Leaders
TL – Task Leaders
AL – ACME Leadership

1. Long-to-Short Term ACME Plans





https://acme-climate.atlassian.net/wiki/display/CNCL/10+Year+Roadmap

Confluence | Spaces | People | Calendars | Create

Council

Pages
Blog

SPACE SHORTCUTS
Meeting notes
File lists

PAGE TREE
ACME Plans and Reports
ACME Roadmap - from proposal
1 Year Roadmap
3 Year Roadmap
10 Year Roadmap
ACME Vision
File lists
Meeting notes
Meetings and Presentations

Pages / Council / ACME Roadmap - from proposal

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10 Year Roadmap

Created by Renata McCoy, last modified on Oct 14, 2014

The 10-Year Goal

Over the next 10 years, the ACME project will assert and maintain an international scientific leadership position in the development of Earth system and climate models at the leading edge of scientific knowledge and computational capabilities. With its collaborators, it will demonstrate its leadership by using these models to achieve the goal of designing, executing, and analyzing climate and Earth system simulations that address the most critical scientific questions for the nation and DOE.

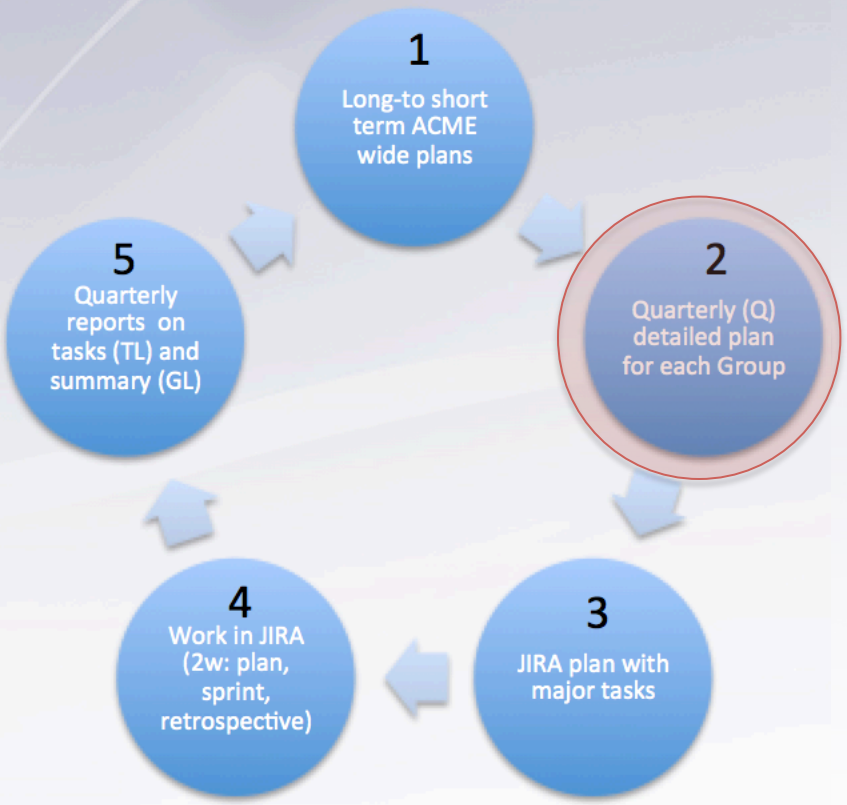
The ACME 10-year Roadmap

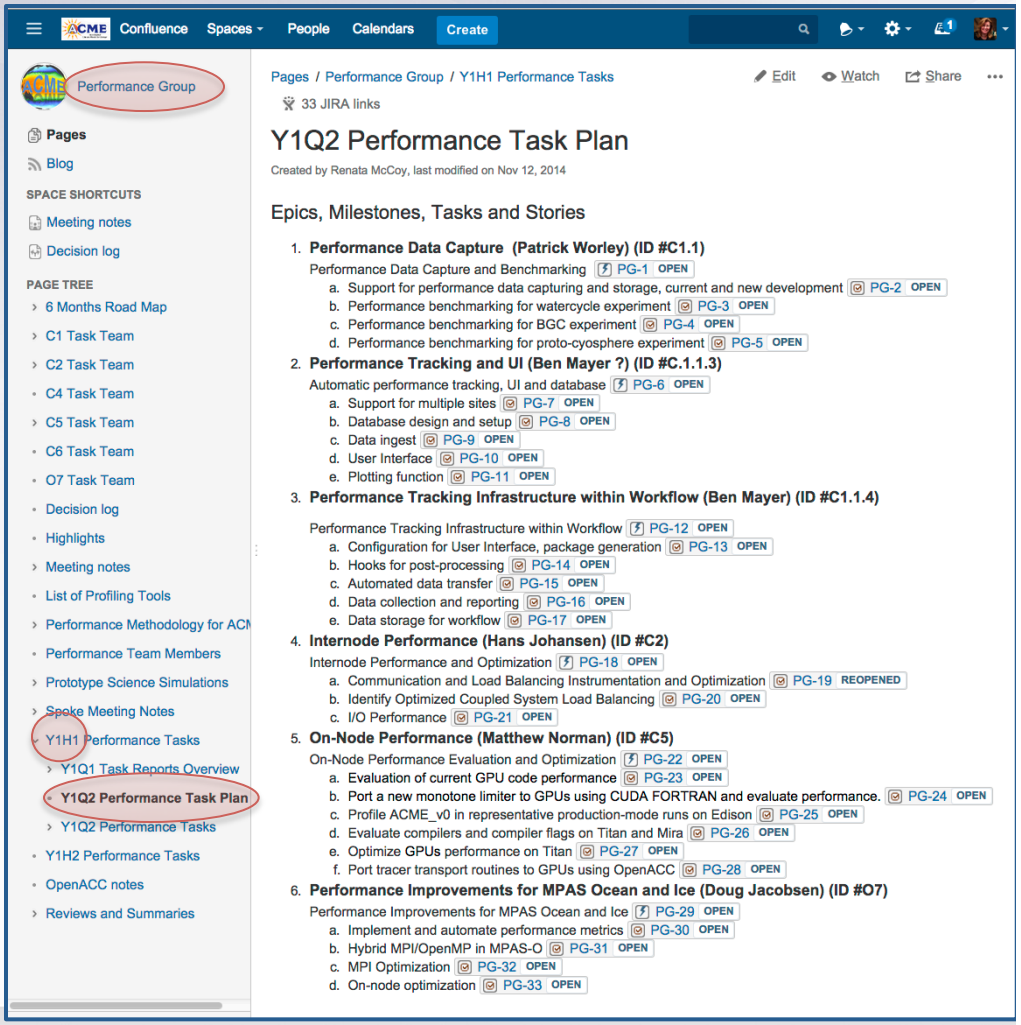
ACME will achieve this goal through four intersecting project elements:

1. a series of **prediction and simulation experiments** addressing scientific questions and mission needs;
2. a well documented and tested, continuously advancing, evolving, and improving **system of model codes that comprise the ACME Earth system model**;
3. the ability to use effectively **leading (and "bleeding") edge computational facilities** soon after their deployment at DOE national laboratories; and
4. **an infrastructure** to support code development, hypothesis testing, simulation execution, and analysis of results.

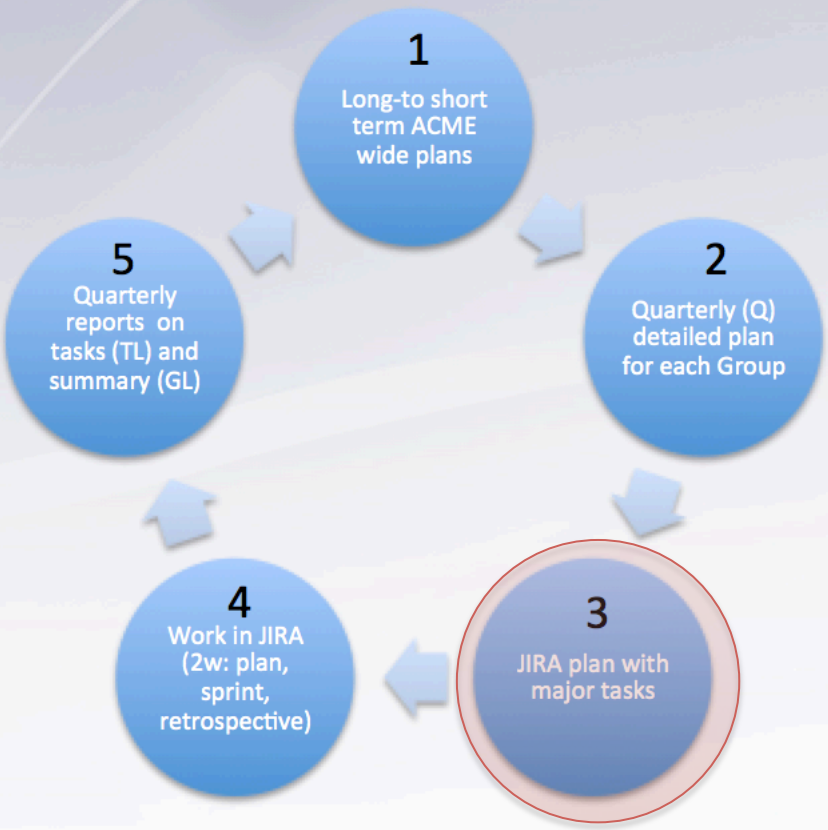
Figure 1 depicts the ACME Project Roadmap, showing the relationships among the first three major project elements: the simulations, the modeling system to perform those simulations, and the machines on which they will be executed. Unlike the other three elements that have distinct but overlapping phases, the fourth element, the infrastructure, will evolve continuously based on the requirements imposed by project needs.

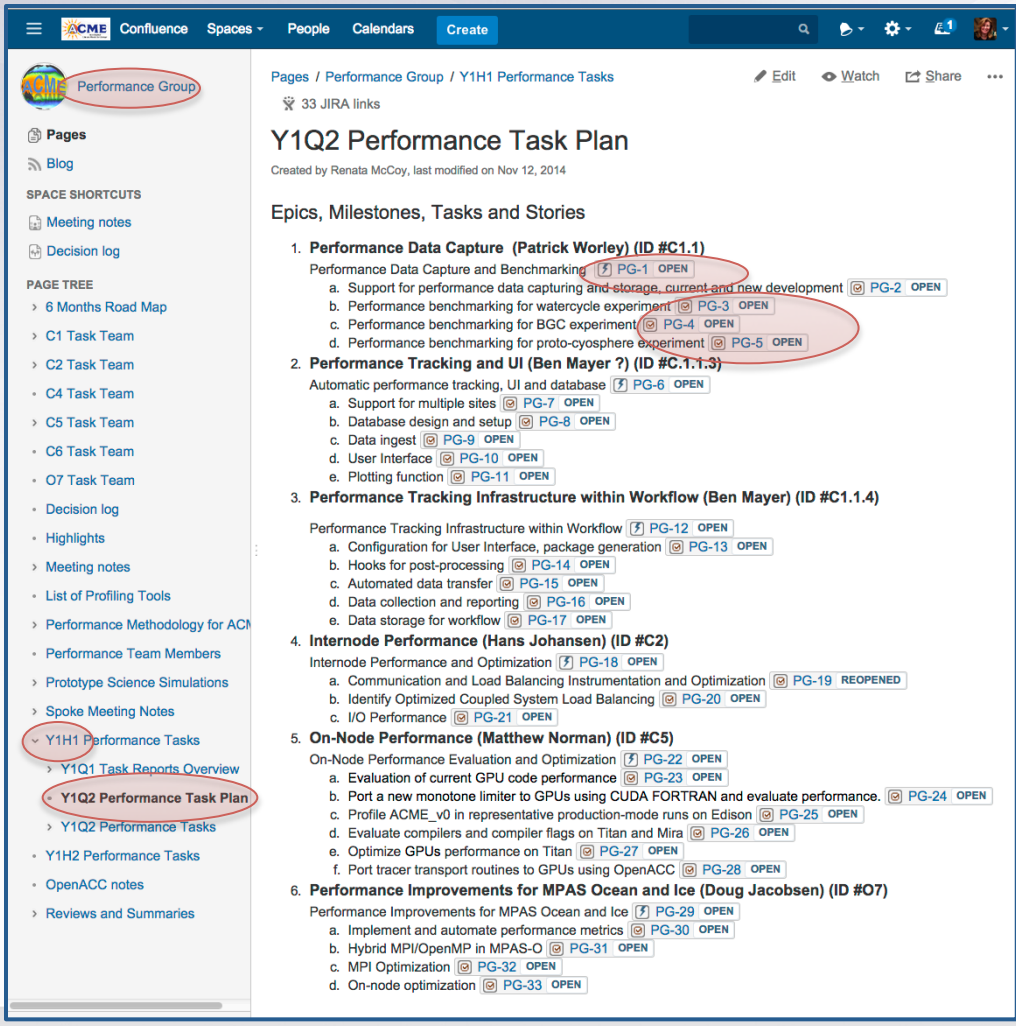
2. Quarterly Detailed Group Plan



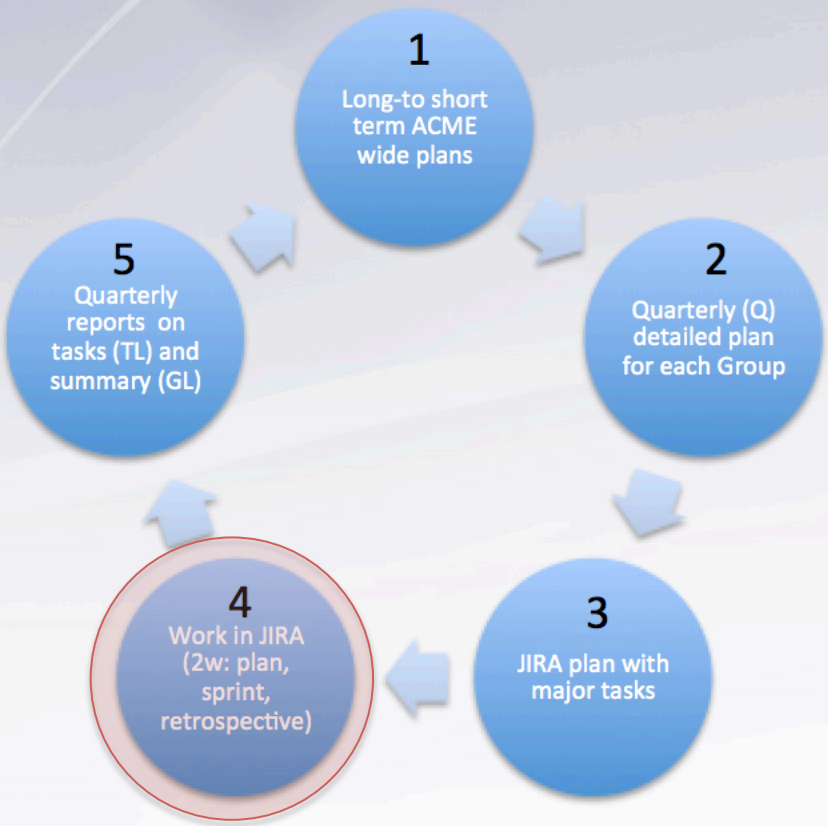


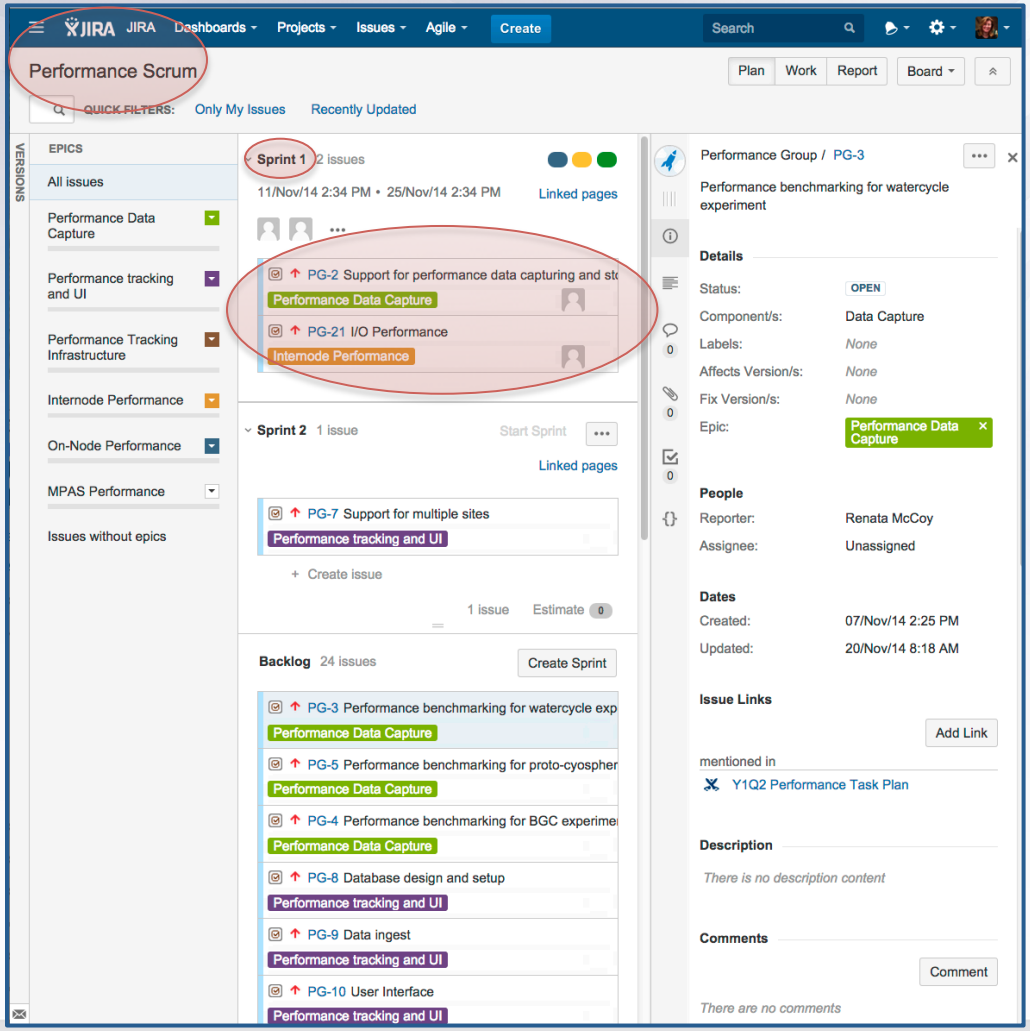
3. JIRA Plan for Major Tasks



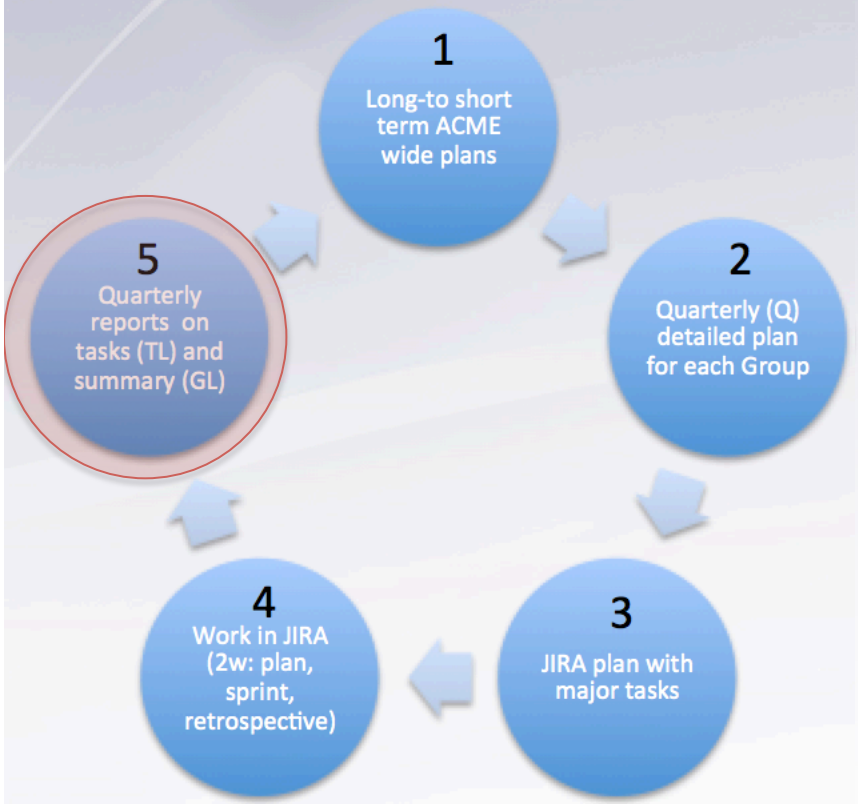


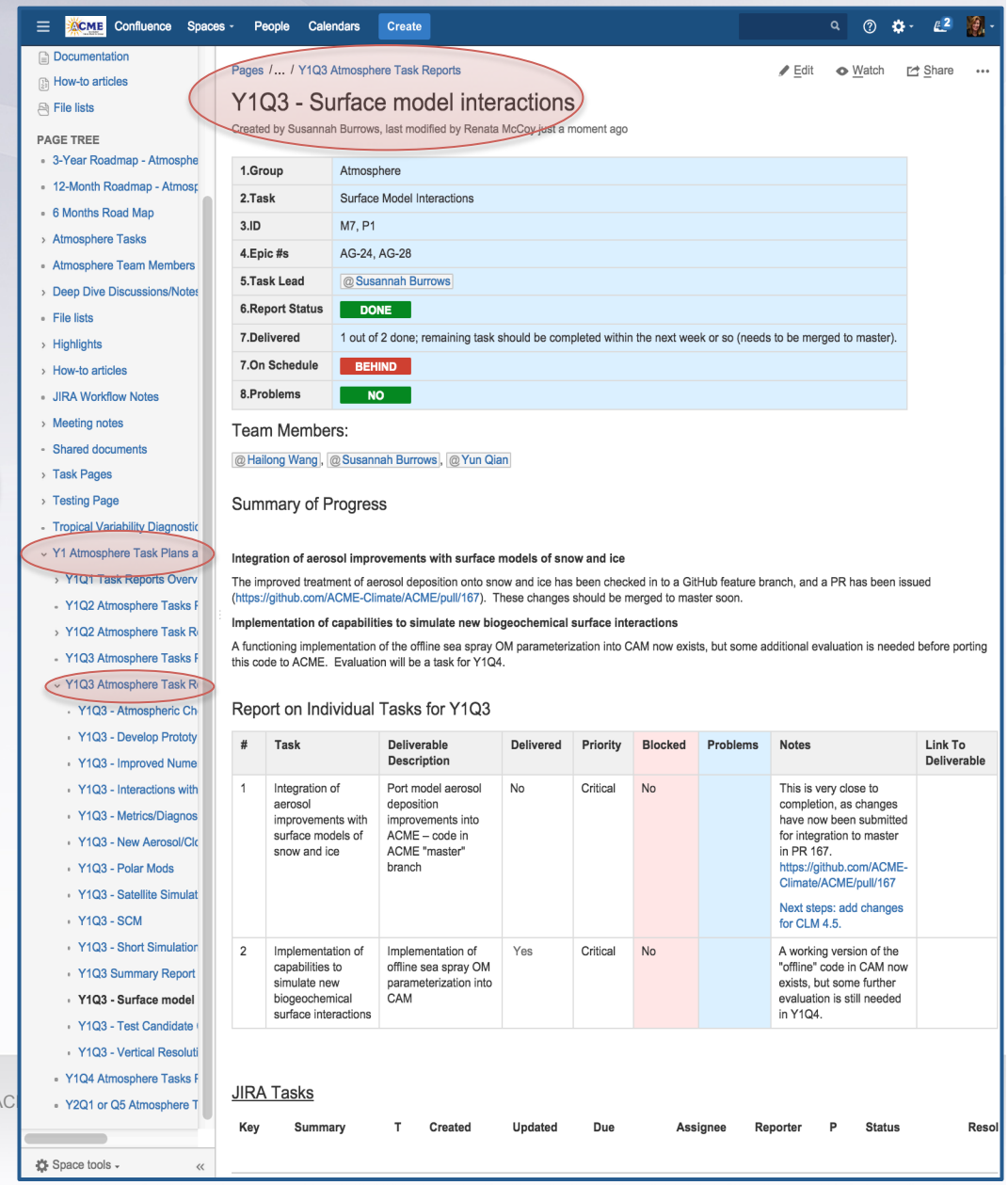
4. JIRA Tasks – 2 Week Sprints





5. Quarterly Reports



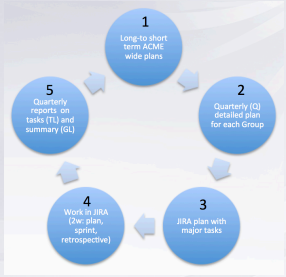


ACME Accelerated Climate Modeling for Energy

Why this structure?

1. Incorporates both planning and agility
2. Enables easy reaction to changes, through rebasing, quarterly planning, sprint planning mode
3. JIRA forces detailed planning for the 2 week long sprints and forces tasks definition for every member of the team
4. By requiring deliverables with each major task, we make sure every task produces a piece of a product
5. The retrospective and rebasing makes sure our plans evolve with changing environment, changing machines, evolution of our knowledge and any other changes.

Important points in strategy



1. ACME development is an iterative, agile process
2. It does rely on integrated (not divided into groups or components), progressively more detail ACME Roadmaps (10-, 3-, 1-Year Roadmaps)
3. These roadmaps are adjusted regularly (1-Year is adjusted every 6 months, 3-Year every 1 year, and 10-Year every 3 years)
4. Group's Quarterly Plan is static and starts and comes from this Group's 1-Year Roadmap
5. Quarterly Plans for the next quarter are to be prepared 6 weeks after the start of a current quarter
6. JIRA tasks come from the Group's Quarterly Plans.

Realization: Communication

Working well:

- Excellent communication across our distributed project
- Vigorous, transparent discussion on Confluence
- Very good compliance in using Confluence, no emails
- Good documentation

To be improved:

- We may put some effort into better organization
- More documentation

Realization: Roadmaps, Plans, Reports

Established:

- 3-Year ACME Roadmap, 12-Month Roadmaps for ACME and for each group
- Quarterly Reports procedure

To be improved:

- Quarterly planning for each group
  - granularity,
  - on-time plans finalization
- On-time Quarterly Reports

Should repeat:

- We had a great road-mapping all–day conference call in April, we should have one every quarter

Realization: JIRA Implementation

Established:

- JIRA structure and procedures with 2-week required focused planning (2-week 'sprints') (required as of April 2015)
- JIRA projects for each group
- All groups work in JIRA

To be improved:

- JIRA tasks need to originate from Quarterly Plans
- Planning for a 2-week sprint seems to still be a challenge
- Few groups follow the 2-week sprint requirements
- Cross-project similar granularity for tasks
- Users understanding of requirements

Summary

- ACME Achievements
  - Transparent planning, working and discussions – everything is open to all
  - Very good communication across whole project
  - Established and implemented agile model development procedures
- Status on Realization and Compliance
  - Need to improve on Quarterly planning which feeds into JIRA
  - JIRA compliance with sprints

Thank You !