

# SAFE for Tier-2

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**EPSRC**

**NERC** SCIENCE OF THE ENVIRONMENT

 **archer**

**CRAY**  
THE SUPERCOMPUTER COMPANY

**epcc**



# What is SAFE

- SAFE is a web application for managing HPC services
  - Used for
    - ARCHER: EPSRC/NERC National HPC Service
    - DIRAC: STFC Distributed collaboration, shared with local users
    - EPCC: local HPC and Data services
  - Multiple independent services can be managed through a single SAFE instance
    - Different feature sets and policies configured for each service
  - Under active development within EPCC
    - Large range of policies and features already supported
    - We can also add new features where needed



# User registration

- Users Self-Register with the SAFE
  - Captures user details
  - Verifies Email address
  - Can capture additional identities
    - ssh-key
    - Certificate
    - Shibboleth
    - Moonshot (under development)
  - Once registered, users can apply for accounts in a project



# Reporting and accounting

- Flexible report generation engine
- Usage data can be uploaded to the SAFE for report generation
  - Don't require a fixed upload format
  - Different formats supported via plug-in parsers/policies
    - Many existing parsers, easy to write new ones
      - PBS, SGE, LSF, ...
    - Not limited to batch system data.
  - Reports can access any data in the SAFE
    - Usage by institution, subject area, etc.



# Self service

- Users: can provide self-service operations for common user requests
  - New account requests, password resets, access to packages, etc.
- Project management: can provide self-service operations to allow managers to manage their project resources
  - Manage CPU budgets and access within a project
  - User/group quotas and group membership
  - Accept/reject membership requests
- Resource management devolved to project managers as self-service operations



# Aims for Tier-2

- Make it easy for users to move between Tiers
- Make it easy for projects to move between Tiers
- Support EPSRC in managing the program
  - Cross-program Reporting
  - Applications and allocations
- Provide added value to service operators
  - Flexible rather than prescriptive
  - Co-exist with local constraints



# Current plan

- Currently plan to use a single SAFE instance for Tier-1 and Tier-2
  - All information available in a single place
  - Single login for users to view all accounts
  - Easy for existing projects to move between tiers
- May choose to have distinct views for Tier-2 but underlying infrastructure (and Database) will be common



# Service integration

- Can support several levels of integration between SAFE and services
  - Lightweight integration
    - Minimal requirements on service operators
    - Greatest flexibility
    - Lowest level of SAFE features available
  - Full integration
    - Highest level of SAFE features
    - Slightly more prescriptive
    - More requirements on service operators
- If you want more details, please come along to SAFE discussion group, or just ask!





# Tier-2 Technical Working Group

- EPSRC have asked EPCC to coordinate Tier-2 TWG
  - Technical representatives from each service should be nominated (usually at least lead system administrator)
- Cover technical aspects of coordination between sites, e.g.:
  - SAFE integration and development
  - Sharing of experience and best practice
  - Data management
  - RSE support
  - Develop common approaches to technical assessments
  - Improve services
- Each centre will need to identify a person to attend
  - So that we can set up an initial meeting

