Red Hat and Condor
and the developer community

Matthew Farrellee
Principal Software Engineer

2 May 2012
Outline

- Some history
- What is MRG?
- Open source status
- Open source advancement
  - User community
  - Developer community

- What will make it easier, or possible, for you to contribute to the developer community?
Some history

- Sixth consecutive Condor Week presentation from Red Hat
- Foundation, back in the mid-aughts
  - Red Hat & Condor Project sign strategic agreement
    - Condor 7.0 released with source
    - Red Hat Madison office opened
- Collaborative development, since the foundation
  - Joint features and software hardening (QE & Sec)
- Features, past present and future
  - VMu, concurrency limits, partitionable slots, git, statistics, deltacloud, hierarchical group quotas, cmake, machine local limits, classad and collector performance, ...
What is MRG?

- Red Hat Enterprise MRG - Messaging, Realtime, Grid
  - Messaging - high-performance, reliable, AMQP messaging
  - Realtime - high-performance, deterministic, low-latency
  - Grid - high-performance and high-throughput computing
- Released version 2.0 and 2.1 over last year
  - Aviary ISV APIs, power management, EC2 enhancements, increased performance, reduced memory, improved utilization, integrated configuration, enhanced management, expanded scale, suspend/resume, Wallaby shell, Plumage, Cluster Suite (HA) integration, Wallaby - Cumin integration
- All based on Condor 7.6 series with 7.7 enhancements
- Bleeding edge packages available in Fedora, e.g. Wallaby & Cumin
Open source status

- Apache License, Version 2.0
  - http://research.cs.wisc.edu/condor/license.html
- Ticketing system and community wiki
  - http://condor-wiki.cs.wisc.edu
- Source code repository
  - git clone http://condor-git.cs.wisc.edu/repos/condor.git
- Downstream packaging in Fedora, Debian, Red Hat Enterprise Linux, plus all Nick LeRoy's favorite distributions
- Accepting contributions small and large
Open source status: Tickets

- This year (29 Apr 2012)
  - 2,946 total (+827 for year)
  - 1,234 defects (305 new)
  - 1,109 enhancements (512 new)
  - Over 1000 defects or enhancements resolved
- Last year (30 Apr 2011)
  - 2,119 total (+767 for year)
  - 555 defects (266 new)
  - 326 enhancements (181 new)
- By some number of individuals
- From some number of organizations
- Individual and organization data is difficult to collect
- By 44 individuals
- From UW, Red Hat, U of Nebraska-Lincoln, CycleComputing, FermiLab, Clemson, Imperial College-London, Wipro
Open source status: Commits

• This year (29 Apr 2012)
  • 2,971 in last year
  • About 8 per day for 366 days
  • Only master branch, more on topics
  • By 33 individuals (down 4 from previous)
  • From UW, Red Hat, U of Nebraska-Lincoln, U of Chicago, SORS (down 1 from previous)

• Last year (30 Apr 2011)
  • 2,590 in last year
  • About 7 per day for 365 days
  • Just on release branches, more on topic branches
  • By 37 individuals (up 5 from previous) REVISED
  • From UW, Red Hat, U of Nebraska-Lincoln, FermiLab, SORS, UCSD (up from 2 previous)
Open source status: Committers

• This year (to 29 Apr 2012)
  • 444 Greg Thain
  • 317 Karen Miller
  • 316 John (TJ) Knoeller
  • 278 Jaime Frey
  • 226 Dan Bradley
  • 210 Matthew Farrellee
  • 131 Timothy St. Clair
  • 128 Nathan W. Panike
  • 126 Peter MacKinnon
  • 114 Erik Erlandson
  • 114 Alan De Smet

• Last year (to 30 Apr 2011)
  • 331 Jaime Frey
  • 294 Dan Bradley
  • 275 Karen Miller
  • 240 Greg Thain
  • 201 Josh Slauson
  • 169 Matthew Farrellee
  • 128 Nick LeRoy
  • 119 Timothy St. Clair
  • 112 John (TJ) Knoeller
  • 101 Kent Wenger
User community

- Dynamic, growing, stable
  - Users join and are supported by the community
  - Users join and are supported through direct engagement
- Thousands of individual users
- Thousands of organizations worldwide
- Condor Week US & EU, Grid schools
- condor-users with hundreds of messages per month
  - http://dir.gmane.org/gmane.comp.distributed.condor.user
- Thousands of pools, hundreds of thousands of hosts worldwide
  - http://research.cs.wisc.edu/condor/map/
Developer community

• A mature, well-established codebase
  • 5 years or more commit activity
• A very large, active development team
  • 25 or more active developers
• Development activity increasing year-over-year
  • 2+ years old and 25%+ increase in commits in past 12 months compared to previous 12 months
• Source: http://www.ohloh.net/p/condorproject
• Relatively static number of individual development contributors and organizations with developers contributing
• The developer community not showing some of the benefits found in the user community
Discovering a question

- Contributing is easy: Wrong
  - Both for the contributor and maintainer

- Only one contributor finds it difficult: Wrong
  - Same for maintainers

- Difficulties are similar: Wrong
  - Everyone's difficulties are cast in a unique light

- Guessed wrong three times, time to step back and ask...
What will make it easier, or possible, for you to contribute to the developer community?
A plan

- Over the next year
  - Answer: How can we stably improve the developer community?
  - Gather community input
    - Current developers and organizations
    - Potential developers and organizations
  - Form a team to evaluate current situation and integrate input
    - Current stakeholders: Red Hat (Matt) and UW (Todd)
    - Answer: What do we want to do? How can we do it?
  - Develop a strategy and implement portions by Condor Week 2013
- We need your input!
- We do not have the answers (yet)!
I'm serious, your input is important...

What will make it easier, or possible, for you to contribute to the developer community?
Questions raised so far -

- How do I get involved?
- What can I work on?
- How can I become a committer?
- How do I get my contribution in?
- What types of contributions are accepted?
- What is expected of me when contributing?
- What are the rules of engagement?
- What features are coming?
Suggestions so far -

- Maintain a public roadmap, doesn't have to be 100%
- Make public repository the canonical repository
- Evaluate the CLA
- Make condor-devel a first step in communication
- Have developer days / public developer meetings
- Streamline bug reporting process (add and search)
- Visible contributor credit (in commits and version history)
- Publicize freenode #distcomp channel
- Establish a release cadence
- Help increase confidence in changes (test suite)
I want to hear your opinions on Condor's developer community.

Find me during Condor Week or email me -

matt@redhat.com

http://spinningmatt.wordpress.com