The Roadmap to New Releases

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Condor

www.cs.wisc.edu/condor

Stable vs. Development Series

> Much like the Linux kernel, Condor provides two different releases at any time:
>   - Stable series
>   - Development series
> Allows Condor to be both a research project and a production-ready system

Stable series

> Series number in version is even (e.g. 6.<u>0</u>.3)

> Releases are heavily tested

> Only bug fixes and ports to new platforms are added on a stable series

Stable series (cont.)

> A given stable release is always compatible with other releases from the same series

> Recommended for production pools

Development Series

> Series number in the version is odd (e.g. 6.1.12)

> New features and new technology are added frequently

> Versions from the same development series are not always compatible with each other

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Development Series (cont.)

> Releases are not as heavily tested

> <u>Not</u> recommended for production pools

Where is Condor Today?

> The current stable series, 6.0.*, has been out for too long

> The current development series, 6.1.*, is near the end of its life cycle
> - Code freeze on new features after 6.1.13
> - 6.2.0 should be out later this spring

> This was our first stable/development series: we're learning...

New Ports in 6.2.0

> Full support (with checkpointing and remote system calls):

- All current versions of Linux (x86)
  - Kernel: 2.2.* and 2.0.*
  - C Library: glibc-2.[01] and libc-5
- Solaris 2.7 (Sparc and x86)
- Irix 6.5

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New Ports in 6.2.0 (cont.)

> "Clipped" support (no checkpointing or remote system calls, but all other functionality is available)
> - Windows NT
> - Alpha Linux

What Will Be New in 6.2.0?

> Personal Condor and Grid Support
- Flocking
- Globus Job Universe
- Globus Glide-In

> Full, integrated support for Symmetric Multi-Processor (SMP) machines

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What's New in 6.2.0? (cont.)

> PVM and MPI support

> DAGMan (for managing inter-job dependencies)

> Jobs can be put "on hold" and released

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What's New in 6.2.0? (cont.)

> Greatly expanded I/O support for standard jobs
> - Condor can automatically buffer I/O requests from jobs
> - Users get much more information about the kinds of I/O their jobs are performing
> - Users can "remap" files to alternate locations, both regular files and URLs

What's New in 6.2.0? (cont.)

> CondorVersion and CondorPlatform strings included in all binaries and libraries
> - Helps identify and avoid problems with having the wrong version installed
> - Different parts of the Condor protocol automatically check for version incompatibilities

What's New in 6.2.0? (cont.)

> Better accounting
- condor_view collector
  - stores historical data
  - web interface
- Accountant stores usage information per user

> Better control over user priorities
- "Priority factors"

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What's New in 6.2.0? (cont.)

> More powerful administration tools
> - Setting configuration values remotely
> - Querying daemons directly for status

> Lots of performance and bug fixes

> A complete list will be in the online manual (www.cs.wisc.edu/condor/manual)

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The 6.3 Development Series

> Version 6.3.* will be for lots of easy-to-add, user-visable features

> No fundamentally new technology will be added

> Should be relatively short-lived... 6.4.0 will hopefully be out by the end of the year

> Should be compatible with 6.2.*

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What will be added in 6.3.*?

> "Master agents" - helper programs spawned by the condor_master to aid in administration
> - Retrieving remote log, history and/or configuration files
> - Remote "top", "ps" and other monitoring functions

> Support for a "Java Universe" - starting a JVM under Condor

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What will be added in 6.3.*? (cont.)

> Improvements to condor_submit
> - Command-line arguments and environment variables to set default values
> - Ability to submit more jobs to an existing cluster

> Initial checkpoint (your job's executable binary) can be stored on a checkpoint server

What will be added in 6.3.*? (cont.)

> condor_startd will enforce resource limits (like RAM usage)
> Tool to help setup and modify SMP startd configurations
> More logic put into the condor_shadow to detect temporary problems with a job's execution, put the job on hold, and notify the user

The 6.5.* Development Series

> 6.5.* will be for adding fundamentally new technology to Condor

> Developed in parallel with 6.3.*
  - Will hopefully become 6.6.0 (or even 7.0.0?) in the not-too-distant-future

> Will be incompatible with previous versions of Condor

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New Technology in 6.5.*

> New version of ClassAds (Rajesh's work)
> New version of the condor_starter and condor_shadow
  - "NT version" will be used for UNIX, too
  - Lots of new features, like transfering files automatically for "vanilla" jobs (no need for a shared filesystem)

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New Technology in 6.5.* (cont.)

> New technology for remote system calls

> Integrated support for encryption
  - Secure channels, SSL, Kerberos, etc.

> Automatic fail-over for redundant Central Managers

Other changes for 6.5.*

> Re-write of the condor_schedd
  - Support for scheduling dedicated jobs
  - Performance enhancements and lowered resource requirements (particularly RAM)

> Re-write of the checkpoint server
  - Enhanced support for multiple servers
  - Will store data files along with checkpoint files

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Planned Future Ports

> Full support
  - Solaris 2.8 (Sparc and Intel)
  - Alpha Linux
  - Windows NT/2000

> Clipped support
  - PowerPC Linux

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Possible Future Ports

- {free,open,net}BSD
- MacOS X
- HPUX 11.0
- AIX 4.2

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Thank you for coming to Paradyn/Condor Week!

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