The Roadmap to New Releases

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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

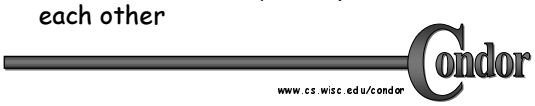
- Series number in version is even (e.g. 6.0.3)
- Releases are heavily tested
- Only bug fixes and ports to new platforms are added on a stable series

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



Development Series (cont.)

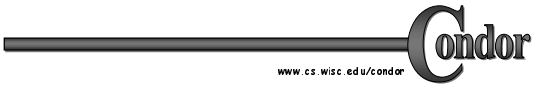
- Releases are not as heavily tested
- Not recommended for production pools

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



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

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

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.)

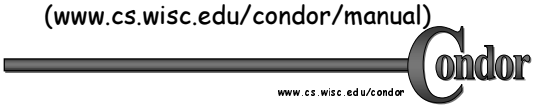
- CondorVersion and CondorPlatform strings included in all binaries and libraries
  - Helps identify and avoid problems with having the wrong version installed
  - Different parts of the Condor protocol automatically check for version incompatibilities

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"

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)



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.*

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

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

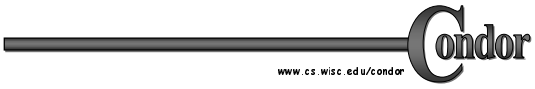
- Improvements to condor_submit
  - Command-line arguments and environment variables to set default values
  - Ability to submit more jobs to an existing cluster
- Initial checkpoint (your job's executable binary) can be stored on a checkpoint server

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

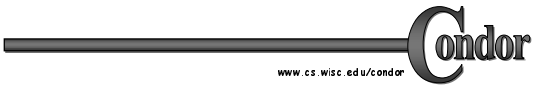


New Technology in 6.5.*

- 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)

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.*

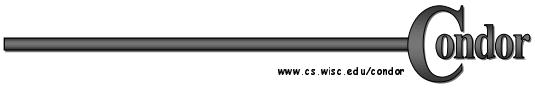
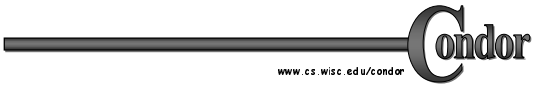
- Re-write of the condor_schedd
  - Support for scheduling dedicated jobs
  - Performance enhancements and lowered resource requirements (particularly RAM)
- Re-write of the checkpoint server
  - Enhanced support for multiple servers
  - Will store data files along with checkpoint files

Planned Future Ports

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

Possible Future Ports

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



Thank you for coming to Paradyn/Condor Week!