



COIN-OR: *Introduction to the “Computational Infrastructure for Operations Research”*

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“What”

- COIN-OR is
 - A repository of source code, models, data, examples
 - Available for re-use
 - Under **open-source** licenses
 - Powered by volunteers
 - Experiment started by IBM in 2000



What is “Open Source”?

- A category of software licenses
 - Rules by which code can be used, copied, modified, distributed,...
 - Freely available, usually via Internet
 - Changes typically given back
- A philosophy
 - Healthy virtual community
 - Debugs, maintains, enhances the source



Common “Open-Source” Misconceptions

- All open-source licenses are the same
 - E.g., Viral vs. non-viral
- “Free for academic use only” is open source
 - Discrimination
- Open source is the same as freeware/shareware
 - Binary executable to end-user software
 - Restricted intellectual property rights



“Why” for the community?

- Reuse rather than reinvent
- Fairer comparisons
- Build on the best
- Promote standards
- Foster collaboration and cross-pollination
- Outlet for software not “product destined”

Companies & COIN-OR



Industry accounts for 37 % of the coin-discuss mail list

Universities & COIN-OR

- Brunel
- Carl von Ossietzky University, Oldenburg
- Carnegie Mellon
- Clemson
- Cornell
- Konrad-Zuse-Zentrum für Informationstechnik Berlin
- Lehigh
- Northwestern
- Politecnico di Milano
- Rutgers
- Simon Fraser University
- Universite de Geneve
- U of Arizona
- U of Pittsburgh
- U of São Paulo
- U of Washington
- U of Waterloo

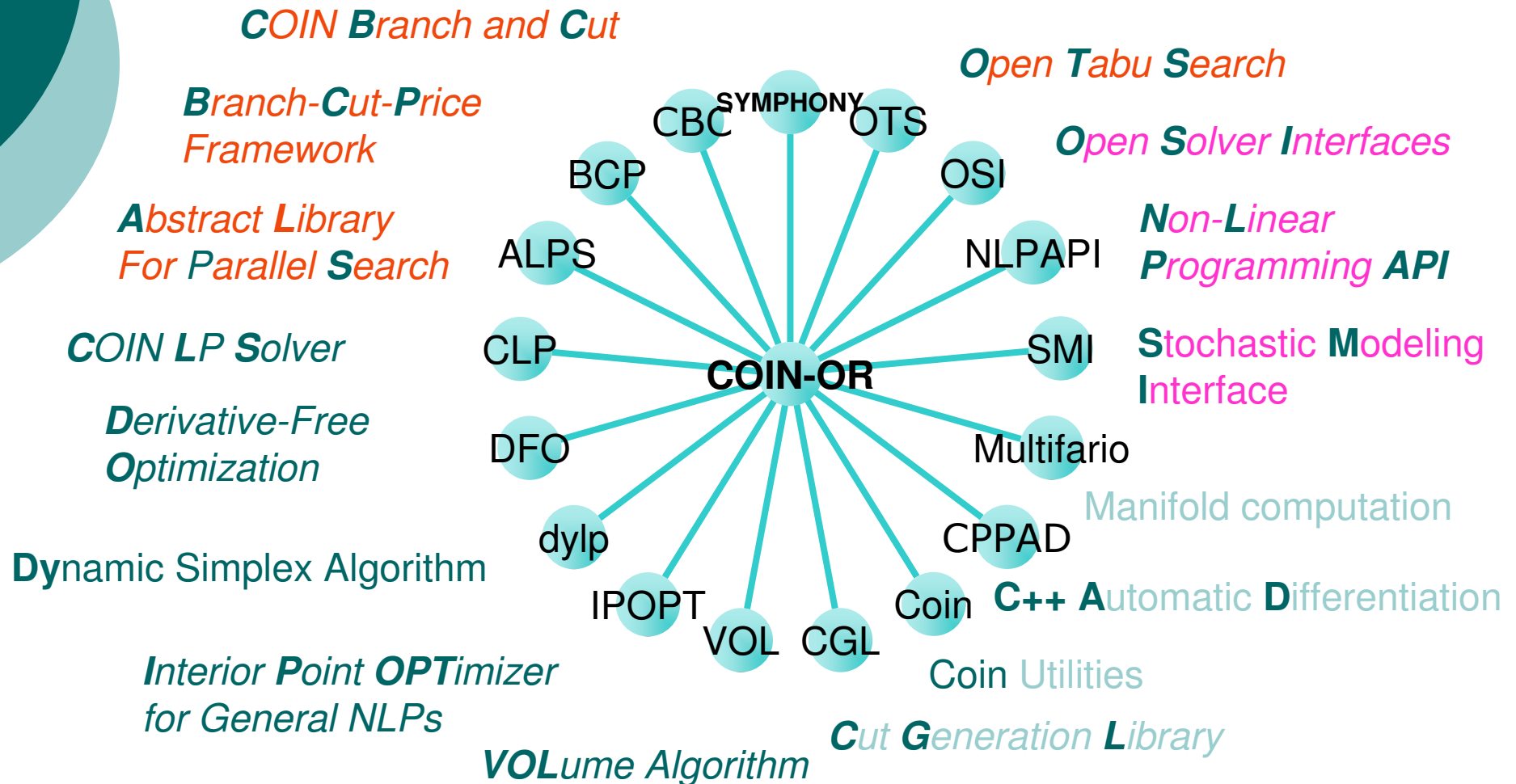




Current Status

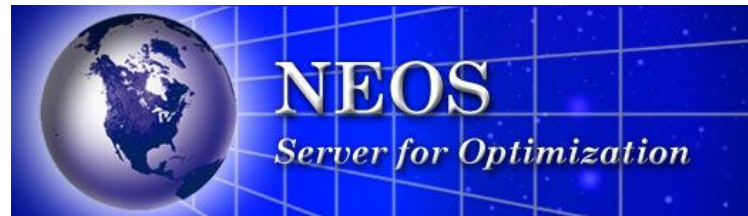
- COIN-OR Foundation, Inc
 - Educational non-profit corporation
 - Established 2004
 - Hosted by **informs** Institute for Operations Research
and the Management Sciences
 - True community ownership
 - Milestone accomplishment
 - IBM is participating and supporting
 - COIN-OR is more open

COIN-OR Projects – includes...



Using COIN-OR

- www.coin-or.org
 - Tarballs, binaries, Subversion and CVS
- NEOS
 - CLP
 - CBC
 - DFO
 - IPOPT
- Products
 - E.g, Frontline Systems and Knitro
- Support
 - Free
 - E.g, coin-discuss@list.coin-or.org
 - Buy





COIN-OR upcoming at EURO

- TE-27: *COIN-OR I*
 - COIN-OR: Open-source Software for Operations Research
 - The ALPS Library for Scalable Parallel Search and Optimization
 - CoinMP: Simple C-API Windows DLL implementation of CLP, CBC, and CGL
- WA-27: *COIN-OR II*
 - OsiL: An Open Standard for Expressing and Using Optimization Problem Instances
 - Stochastic Modeling in COIN-OR
 - The COIN-OR Open Solver Interface
- WB-27: *COIN-OR User Meeting*
 - All are welcome.
- COIN-OR Booth



www.coin-or.org