

# **Technology Partnering and Software Licensing:**

**The practical IT channels of  
CERN's IT Department**

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# Information Technology Department



- **Mission**
  - **Physics Computing**
  - **General Purpose and Administrative Computing**
  
- **Projects**
  - **With Physics community (LCG)**
  - **With Industry (openlab)**
  - **EU-funded (EGEE)**

More?

<http://cern.ch/it-dep/what-we-do>

# Areas of ICT Expertise

- **High-performance computing**
  - Mix of cutting-edge / commodity technologies
  - Large-scale integration
- **Operation**
  - Large-scale, round the clock
- **Innovative administrative computing solutions**
  - Work-flows, HR management, ...
- **Innovative general-purpose computing solutions**
  - Web, email, desktop services, ...
- **Software**
  - Large-scale development, distributed SW engineering



# The Scope of Technology Transfer

- **TT Objective**

*"To make known and available to third parties under agreed conditions, technical developments achieved in fulfilling the laboratory's mission in fundamental research"*

- **Transfer of expertise, know-how to**

- **industry**
- **academia**
- **public institutions**
- **the society at large**



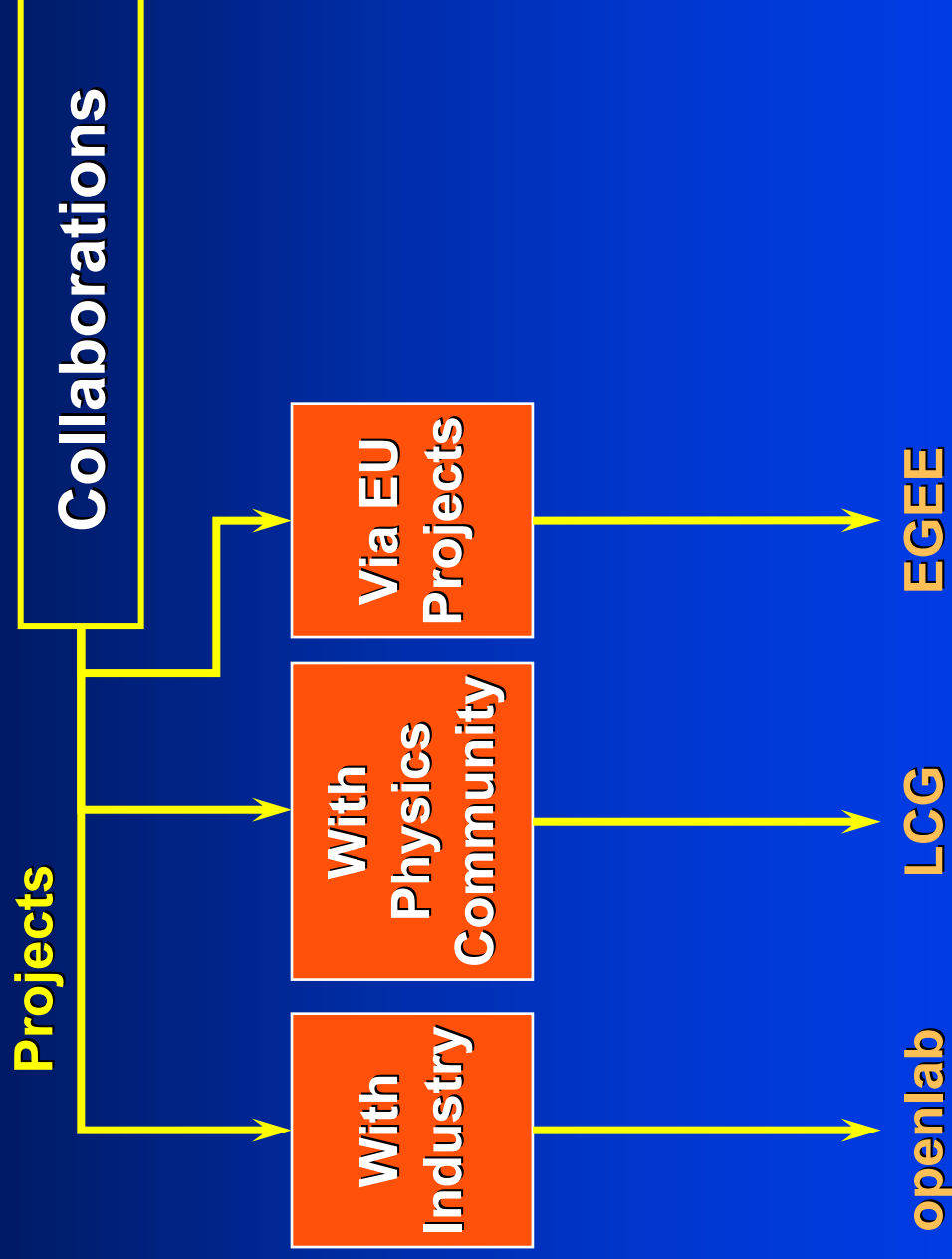
More?

<http://cern.ch/it-tt>

# The Need for Collaboration

- IT Department activities
  - focus on fast changing technologies
  - often require that developments are conducted in **collaboration** with external partners
- As a result, the main channels for IT in the Department are **collaboration** and **partnering** with external organizations

# Collaborations via Projects



# What is the openlab?

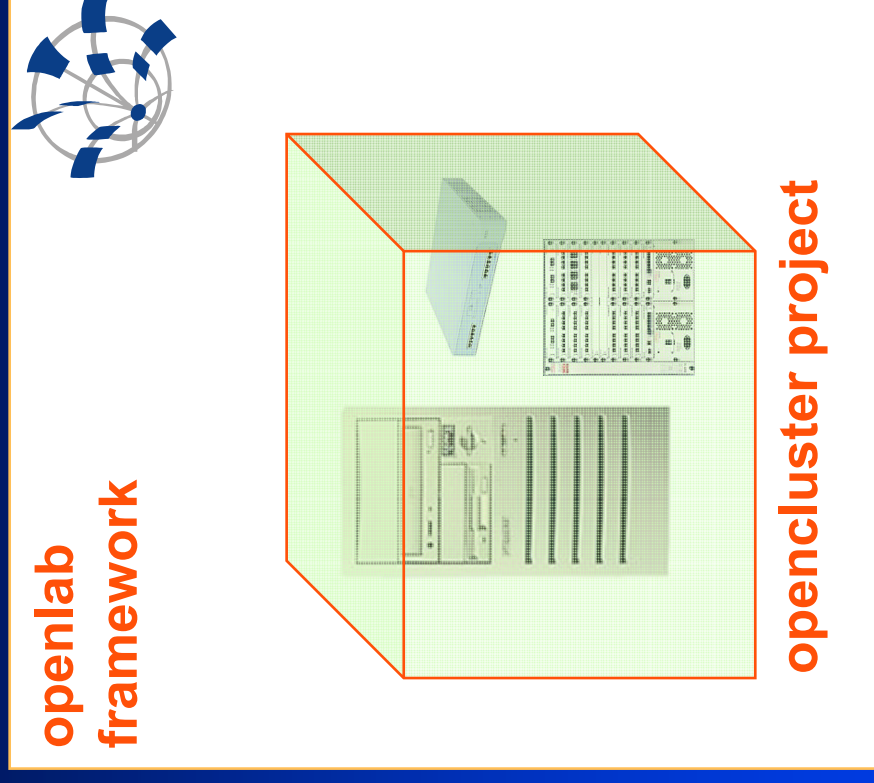
- A **framework** for “R&D” in collaboration with Industry



- **Partner** commitments
  - 3 years
  - Contributions may be a mix of
    - In kind (HW, SW, services, ...)
    - In cash (in general for fellows)
- **Contributor** commitments
  - 1 year
  - Lower level

# What are we doing in the openlab?

- Evaluate and Integrate cutting edge solutions
- Current project: **opencluster**
  - IA-64 Compute farm (**Intel + HP**)
  - 10 Gb Ethernet (**Enterasys + Intel**)
  - Storage (**IBM**)
  - 10g servers (**Oracle**)
  - *Infiniband (Voltaire, contributor)*





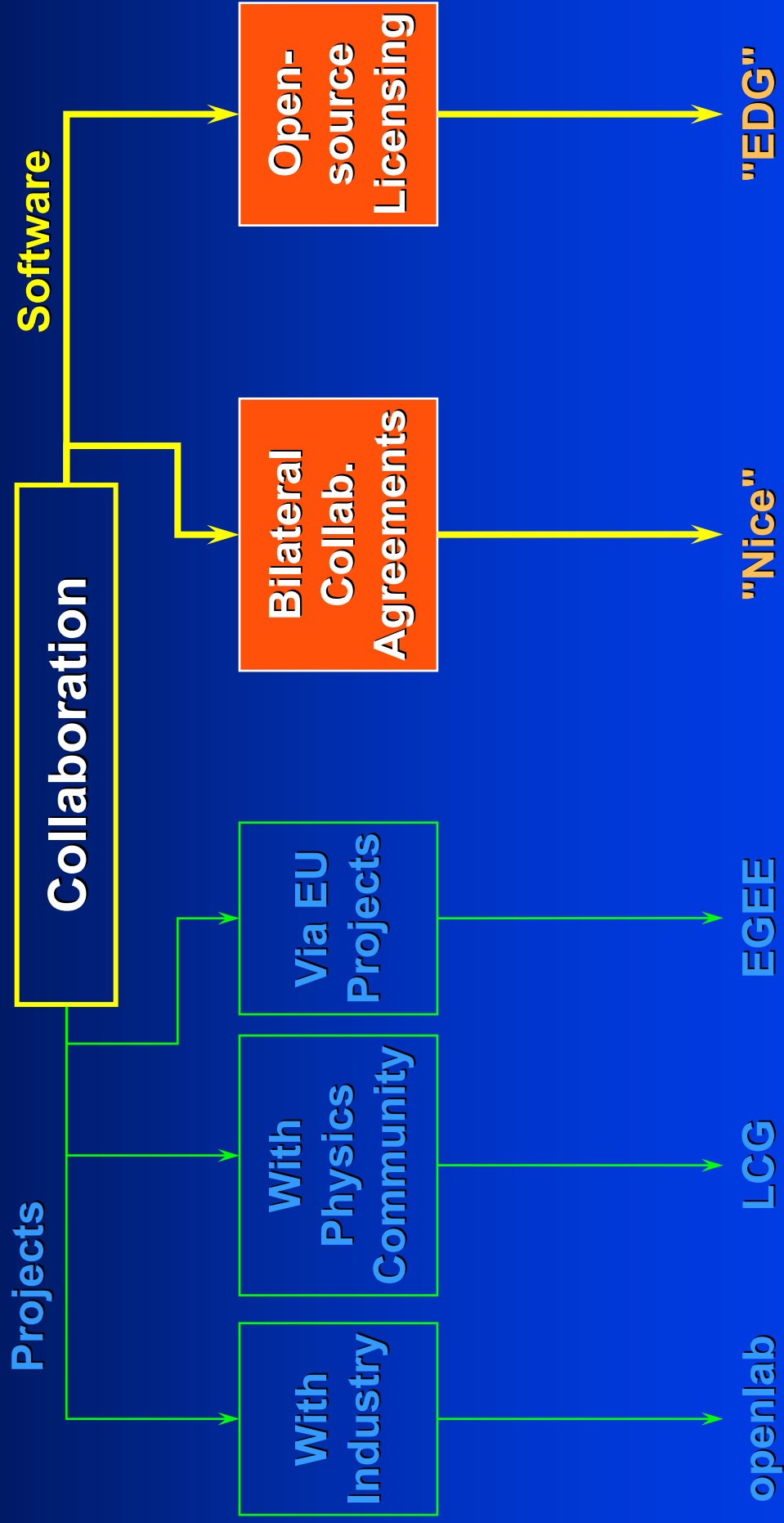
# What is new with the openlab?

- Is it really different from conventional
  - joint projects with industry?
  - field tests?



- openlab is **not** a collection of disjoint bi-lateral evaluations
- It implies
  - A common "agreement" framework
  - A common technical objective
  - An active **collaboration** between all parties

# Collaborations on Software



**"EDG"**  
**"CASTOR"**

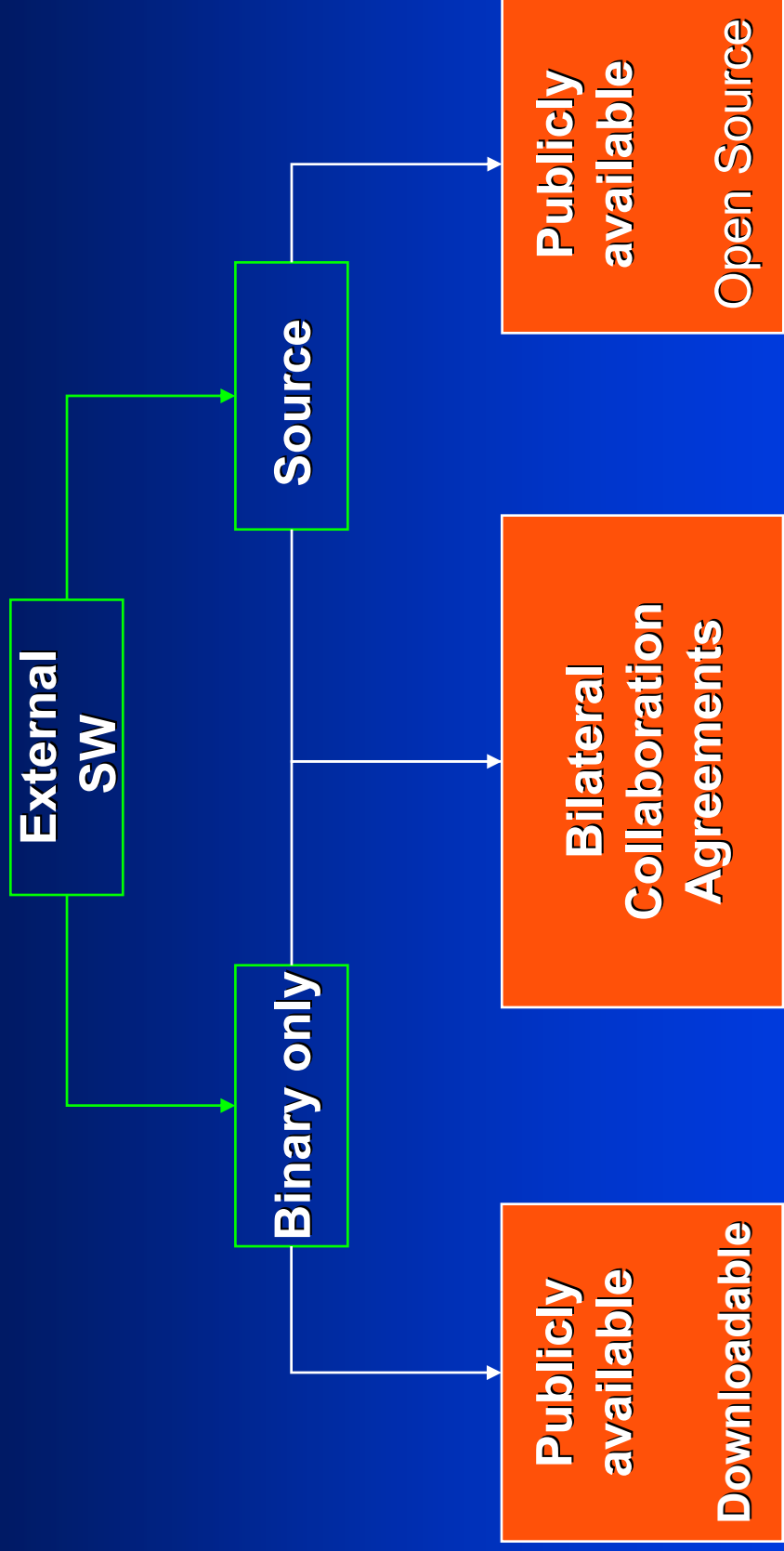
**"Nice"**

**EGEE**

**LCG**

**openlab**

# Making SW available to the outside



# Bilateral vs. "Open Source"



Features	Bilateral Agreements	Publicly Available
<b>Development style</b>	Developed within CERN	Developed with external partners
<b>Motivations for external release</b>	Improvements available to CERN	Improvements available to partners
<b>Scaling</b>	Does not scale	Scales well

# Making SW publicly available

**"Open Source"**

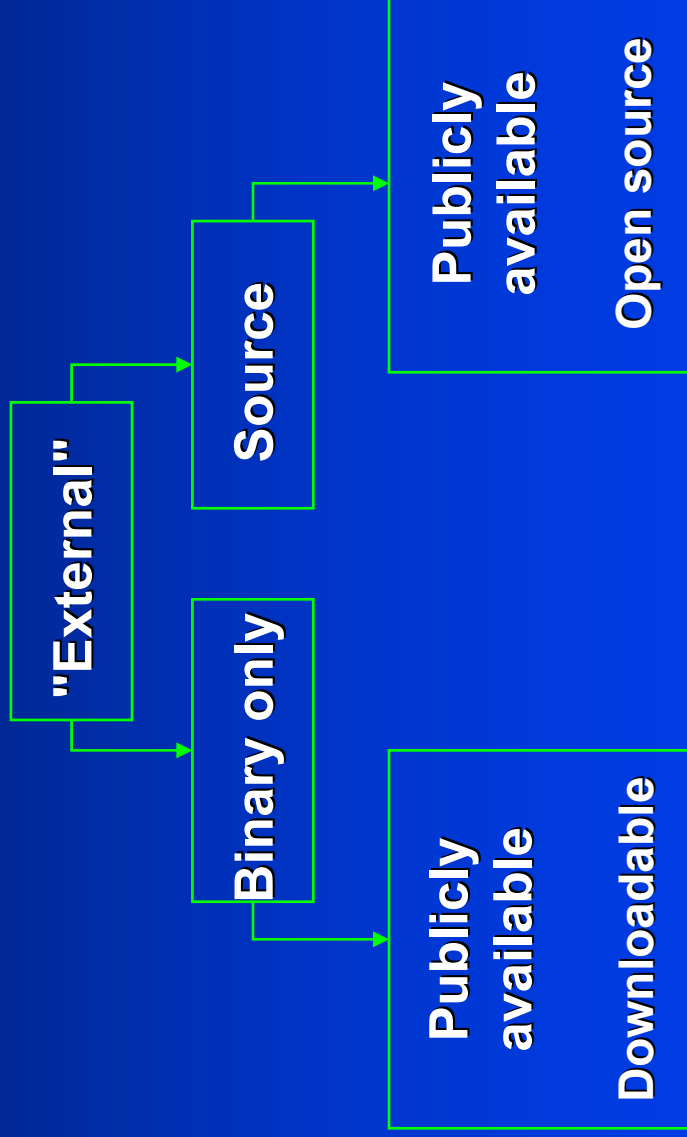
**(Free Software)**

does not mean

**Public Domain**

# Publicly Available vs. Public Domain

## Retain IPR



## Relinquish IPR

Public Domain

# Open Source principles

- **Author keeps copyright**
  - to prevent third parties to turn free software into proprietary software, and deny users the rights to freely use the material
- **Author gives a free of charge, perpetual license to anyone run, copy, modify, ... the software**
- **Licensees may only publish (modified) versions under same open source conditions**



# Distribution of CERN WWW software

**Francois Fluckiger** ([fluckiger@vscrn.cern.ch](mailto:fluckiger@vscrn.cern.ch))

*Tue, 15 Nov 1994 23:05:59 +0100*

Messages sorted by: [\[date\]](#) [\[thread\]](#) [\[subject\]](#) [\[author\]](#)

**Next message:** [David Koblas: "How about an "IF" markup construct..."](#)

**Previous message:** [dolesa@smtp-gw.spawar.navy.mil](mailto:dolesa@smtp-gw.spawar.navy.mil): "[Windows Help to HTML conversion](#)"

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Francois Fluckiger  
Leader, WWW development, CERN

**Next message:** [David Koblas: "How about an "IF" markup construct..."](#)

**Previous message:** [dolesa@smtp-gw.spawar.navy.mil](mailto:dolesa@smtp-gw.spawar.navy.mil): "[Windows Help to HTML conversion](#)"



# Open-Source Distribution Conditions

- Part of open-source license
- Establish rights and duties of the licensee
- Rights to
  - run, copy, change, improve, correct, incorporate into other programs, publish, distribute, charge, sell verbatim, sell modified, sell services, ...
- Duties to
  - perpetuate copyright, publish modifications, publish derivative work, document changes, ...

## License

Copyright Statement

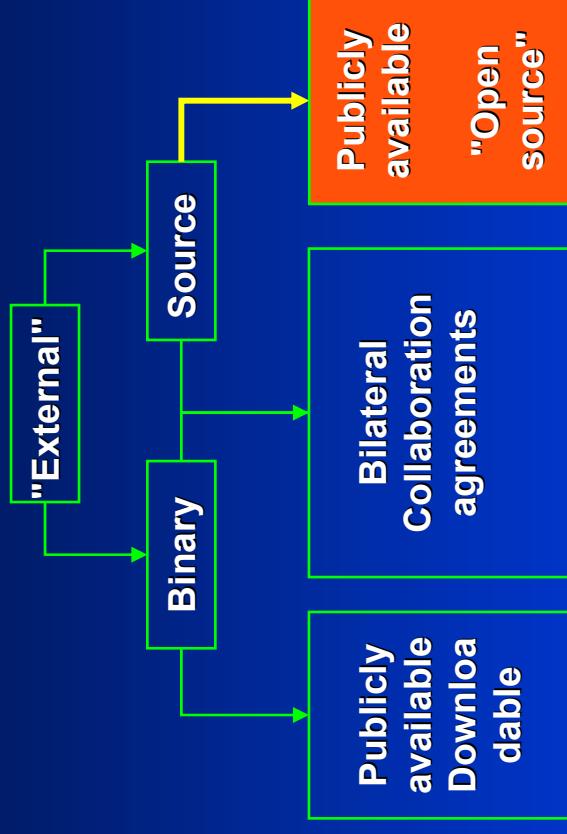
**Distribution Conditions**

Disclaimer

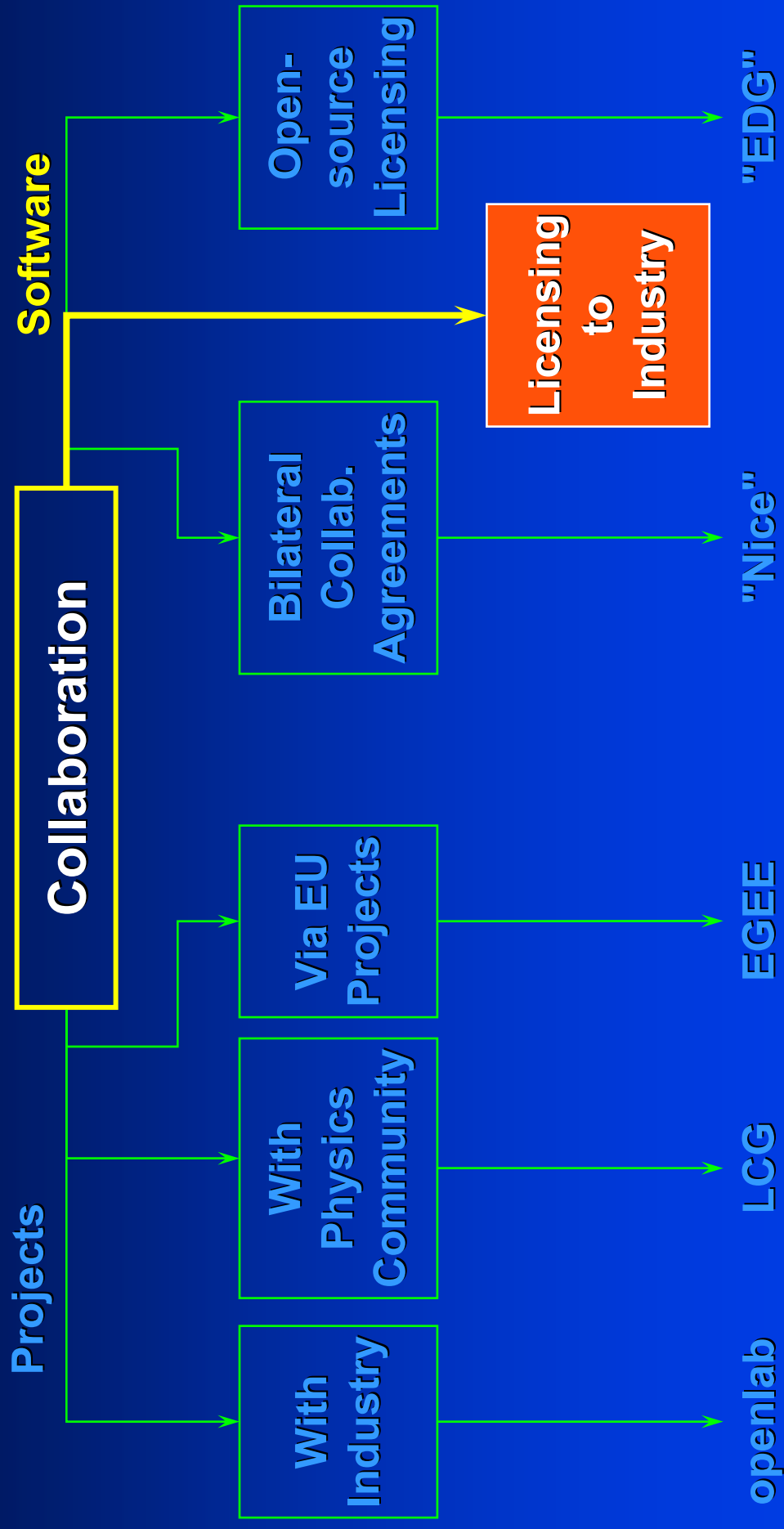
# Licenses for "Open Source" at CERN

- Either
  - a **CERN specific licence**
  - e.g. EDG license

- Or
  - a **Public License**
  - e.g. GPL, LGPL



# Conventional SW Licensing to Industry



**"CASTOR"**

# Conventional SW Licensing to Industry

- Though less frequent, conventional licensing / IPR transfer to **industry** is in no way ruled out
- Several examples in particular in **Administrative Computing**
- **Note:**
  - Open Source licensing does not preclude licensing to industry for commercial exploitation
  - A given SW module may be open-source licensed as well as licensed bilaterally to a partner, allowing the distribution of modified versions under proprietary license

# Conclusion

The major - though non exclusive - IT channels for Technology Transfer are based on **collaborations** with external partners

Transfer is by **doing**  
things **together**