

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**



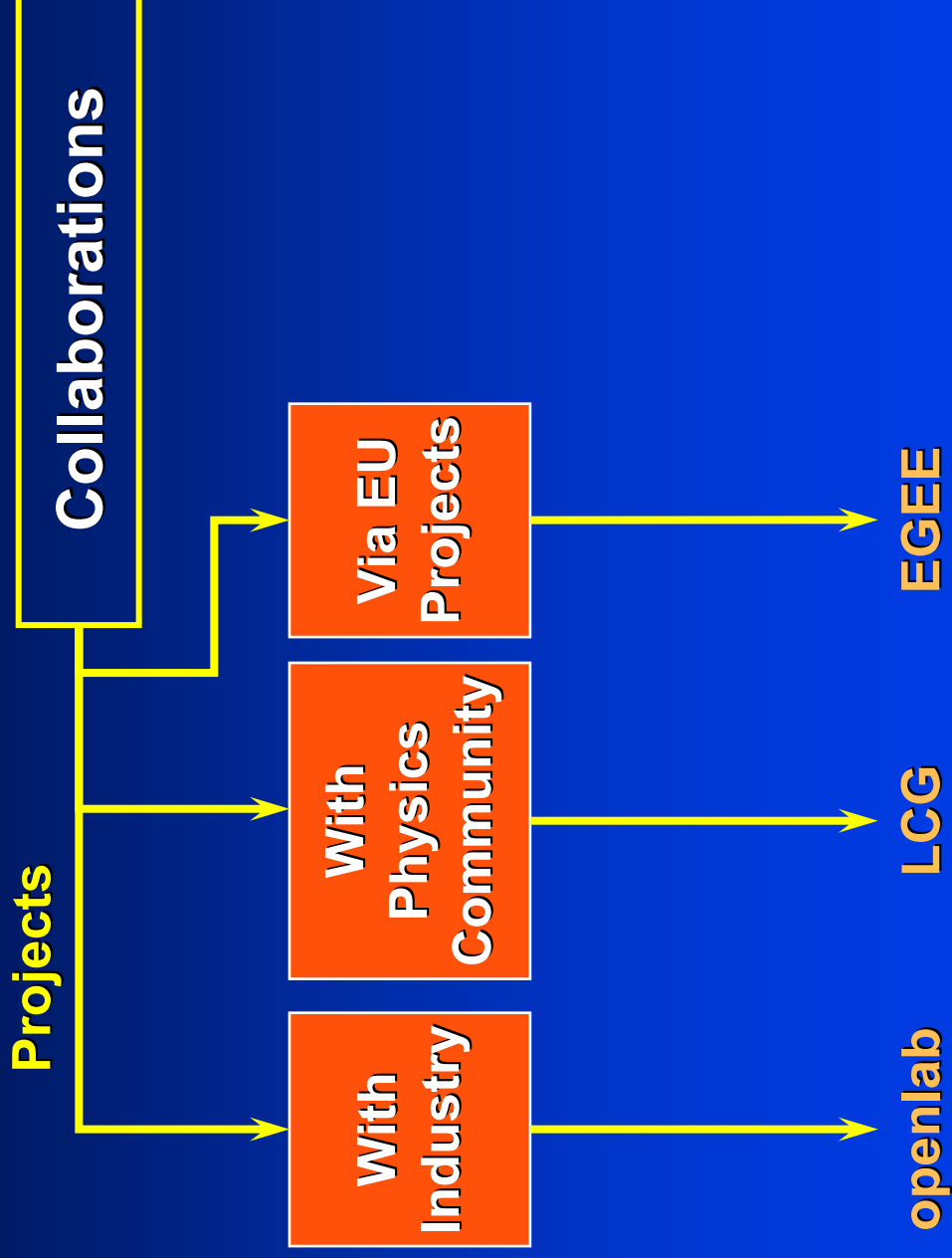
More?

<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?

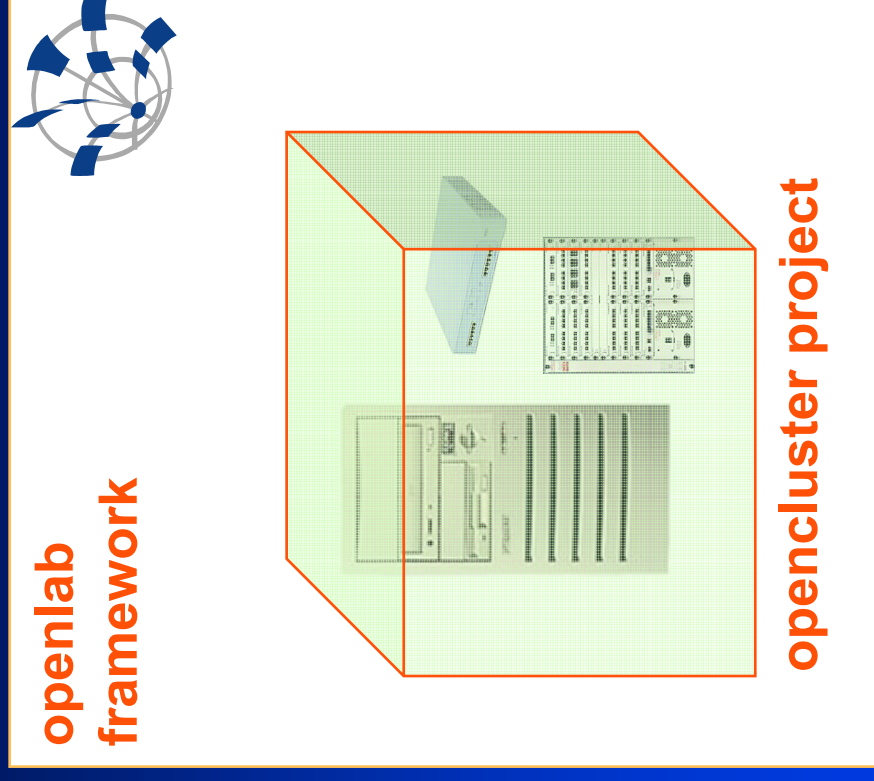
- A **framework** for “R&D” in collaboration with Industry



- **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)*

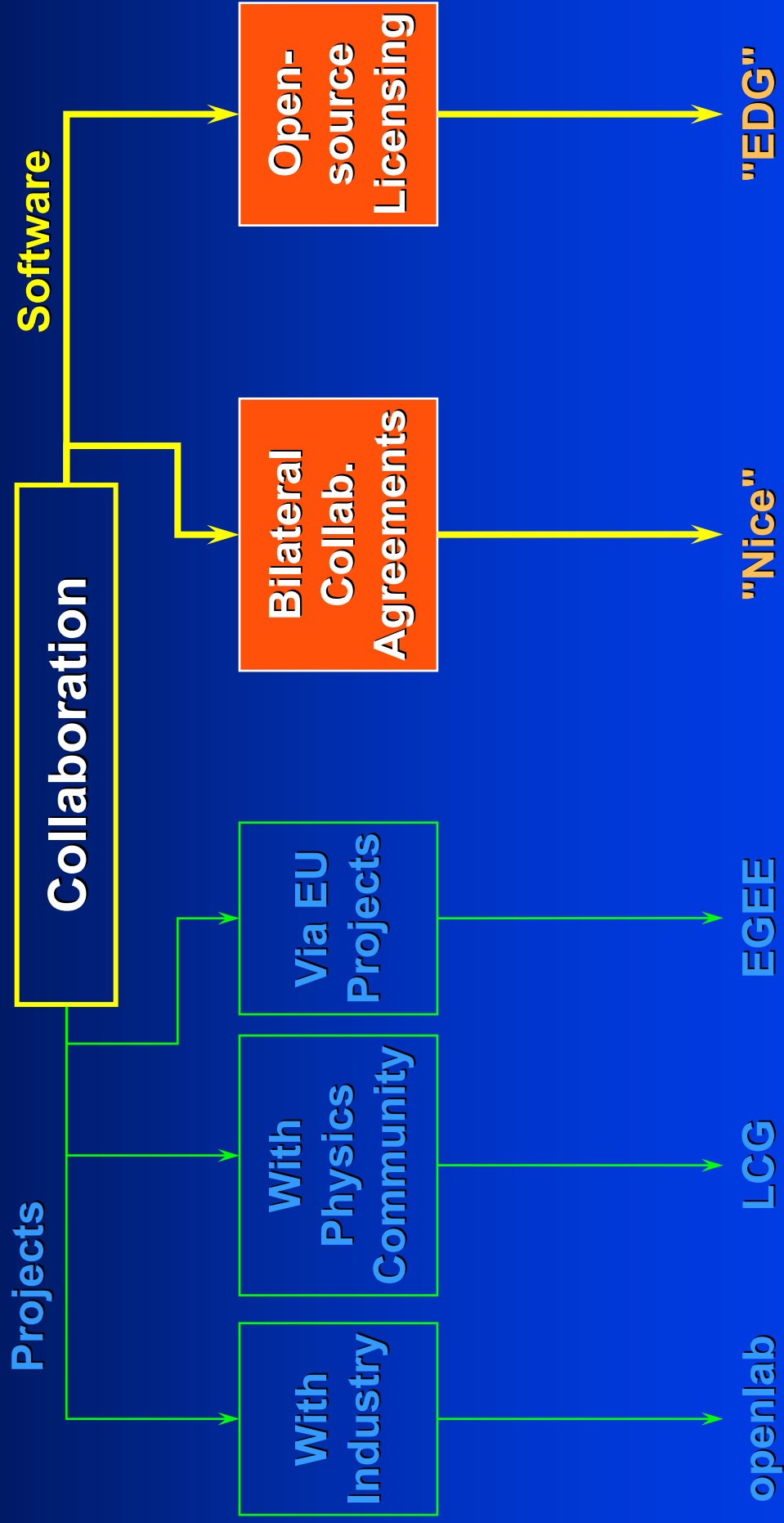


What is new with the openlab?

- 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"

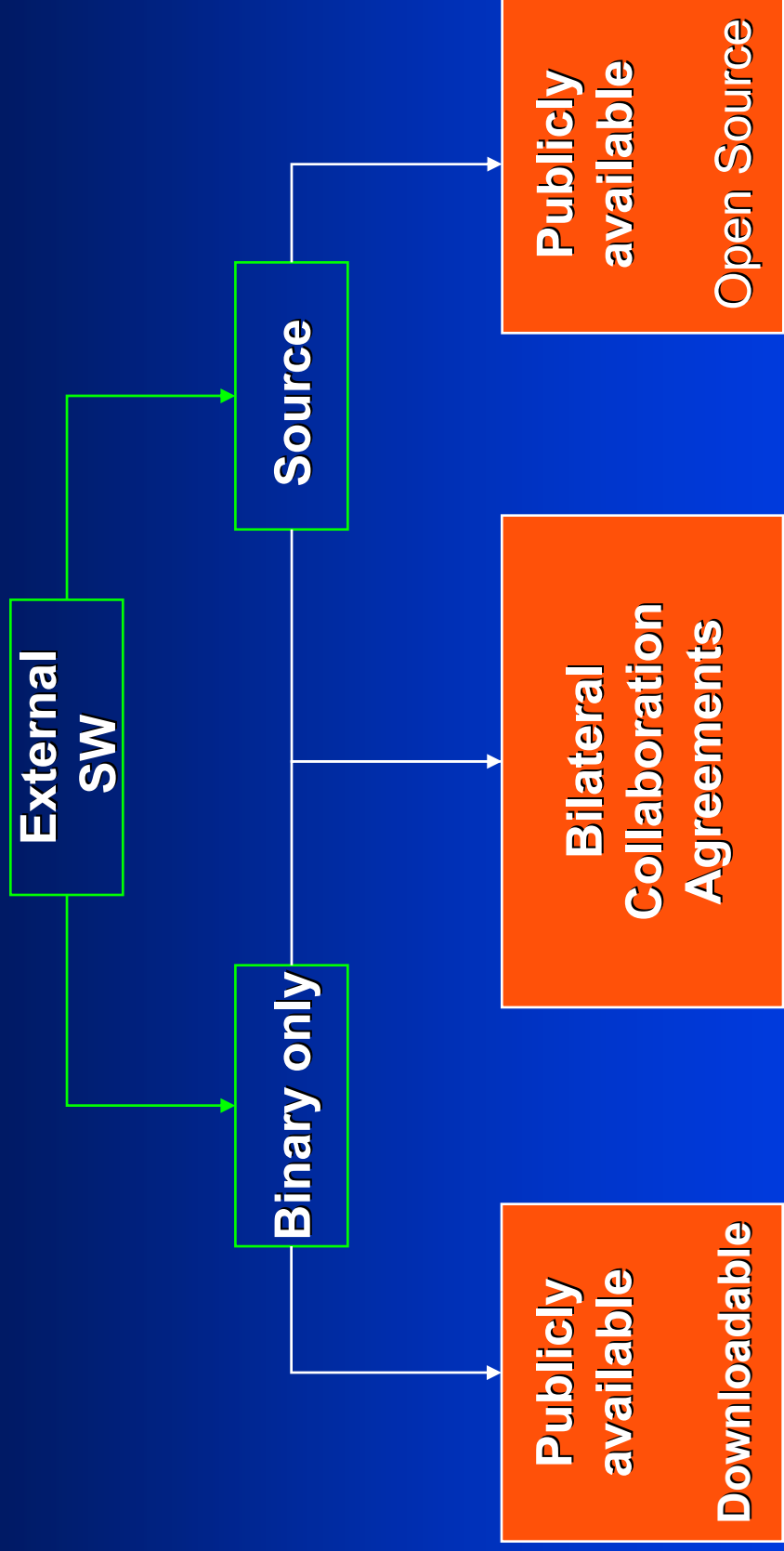
"Nice"

EGEE

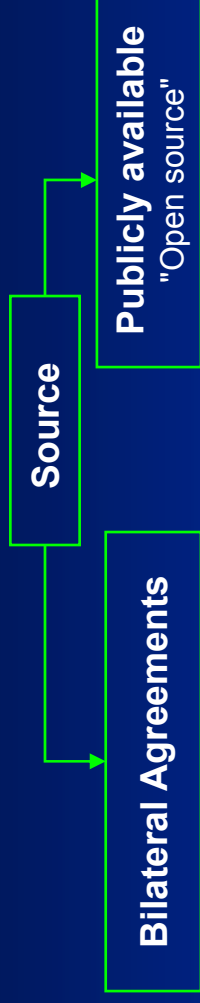
LCG

openlab

Making SW available to the outside



Bilateral vs. "Open Source"



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

Making SW publicly available

"Open Source"

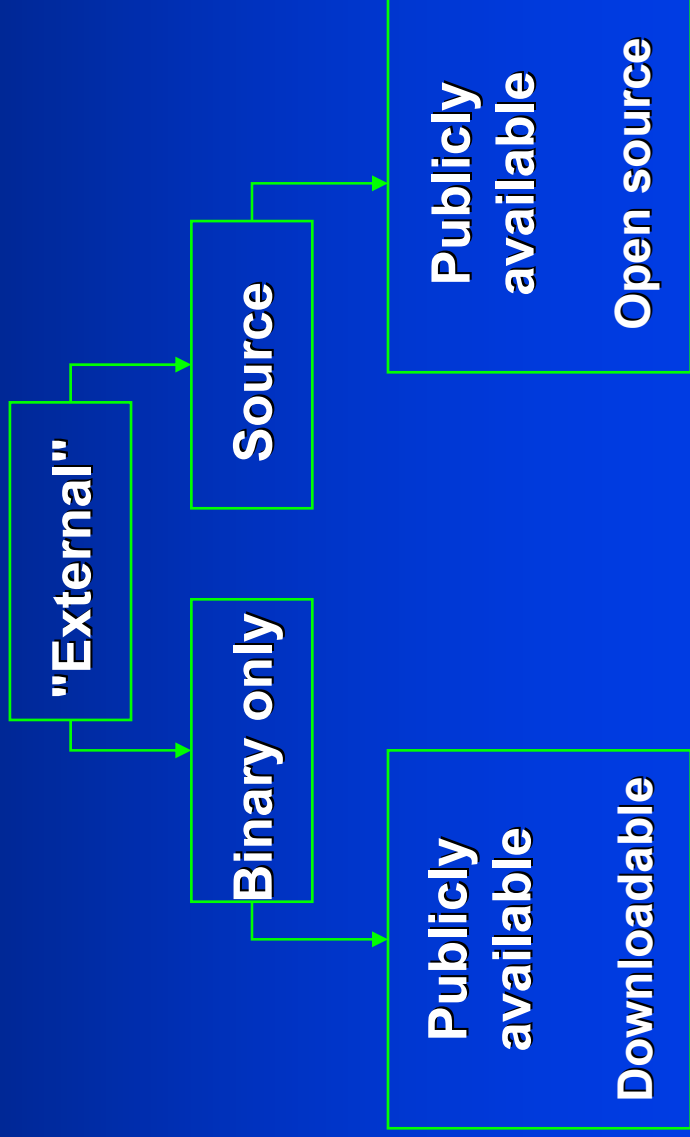
(Free Software)

does not mean

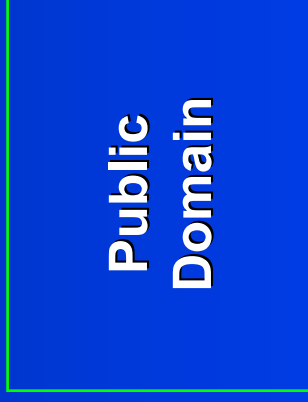
Public Domain

Publicly Available vs. Public Domain

Retain IPR



Relinquish IPR



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@vscrna.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: "[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..."](#)

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- Part of open-source license
- Establish rights and duties of the licensee
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 - 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

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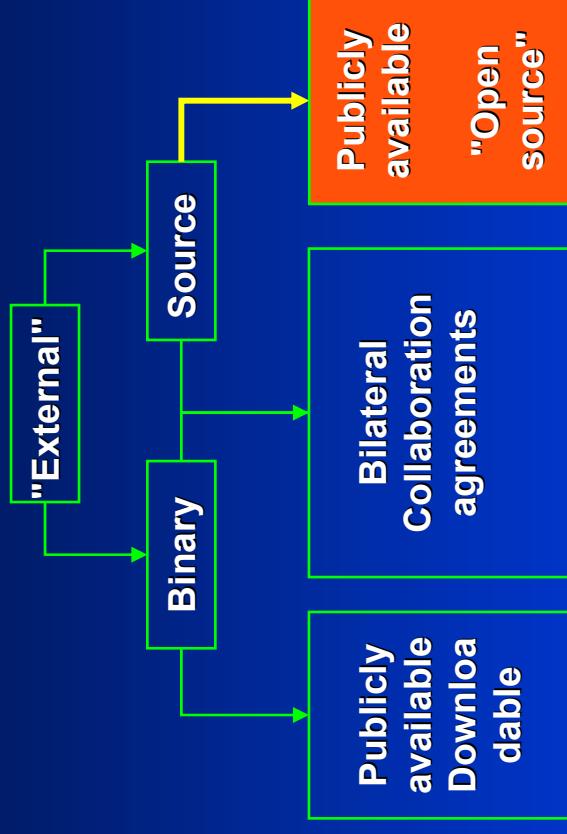
Distribution Conditions

Disclaimer

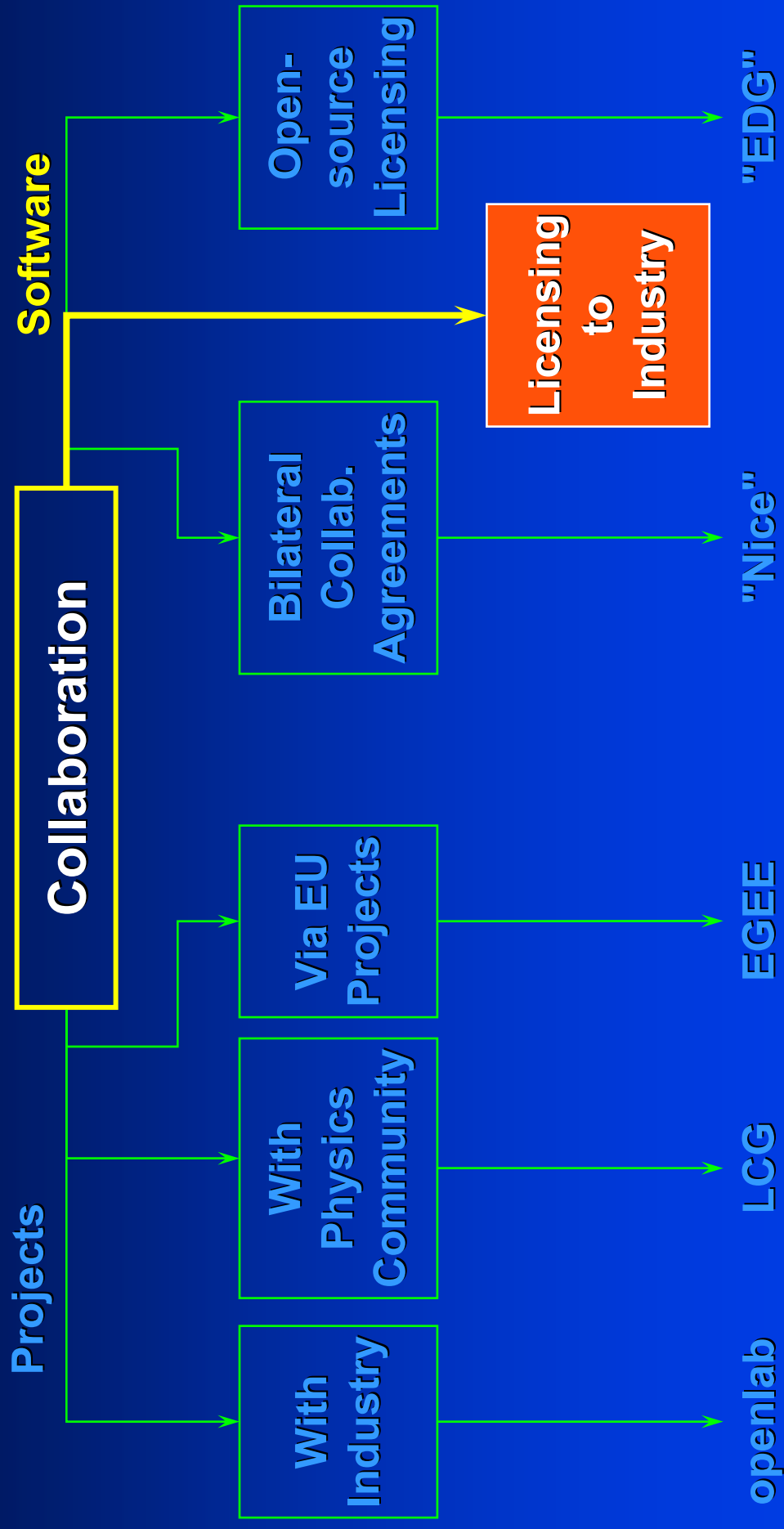
Licenses for "Open Source" at CERN

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

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



Conventional SW Licensing to Industry



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