



Human Brain Project

Unifying our understanding of the human brain.

Experience with Intellectual Property Rights within PCP

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Credits

- Credits to PRACE-3IP PCP
 - HBP PCP Tender documents based on those of PRACE-3IP
 - Made use of experience obtained within PRACE-3IP PCP

Background

- **PCP in context of supercomputers**
 - **Supercomputers = HPC systems over \$500K**
 - Market characteristics
 - High pressure to innovate ("Moore's Law")
 - Short innovation cycles
 - Small number of suppliers
 - Market volume small compared to R&D costs
 - » \$10.3B HPC servers, \$4.0B supercomputers (IDC 2014 HPC Market Update)
 - **Different types of solution providers**
 - Integrators: Companies which integrate 3rd party solutions
 - Technology providers = IP providers

Human Brain Project PCP

- **Goal of the Human Brain Project**
 - Integrate neuroscience data from around the world, to understand the human brain and its diseases, and ultimately to emulate its computational capabilities
- **Development of 6 ICT platforms including the High Performance Computing Platform**
 - HPC Platform = federated compute system
 - Includes pre-exascale HPC systems

Human Brain Project PCP (cont.)

- HBP PCP on "Whole System Design for Interactive Supercomputing"
 - Aim for architectural solutions that will permit interactive use of large-scale supercomputers
 - R&D related to dense memory integration, scalable visualization, dynamic resource management
 - Demonstration of technical readiness through pilot system
- Plan for commercial procurement of production-scale system in the 2017-18 timeframe

Role of IPR in PCP

- Aspect of sharing risks and benefits
 - IPR part of shared benefits
 - Typical solution: suppliers owns IPR, public procurer obtains licence
 - Risks:
 - Unfair advantage of supplier in possible future procurements
 - Discrimination of potential other suppliers (including SMEs)
- Strategy of avoiding vendor lock-in
 - Licence to use solution with other suppliers

Background IP vs. Project IP

- *Background IP*

- Information, technology or Intellectual Property Rights relating to such information or technology owned, developed or controlled by either of the Tenderer or the Procuring Entity at the date of the Agreement or which shall at any time thereafter become so owned, developed or controlled otherwise than as a Result of the Project or under this Agreement, excluding, for the avoidance of doubt in any later Phases, Project Intellectual Property Rights developed in an earlier Phase.

- *Project IP*

- New Intellectual Property Rights arising from or relating to Services and the Results

Protection of Background IP

- Project IP may not be usable without Background IP ➡ *Relevant Background IP*
 - Background IP that is essential to the functioning and use of the Project Intellectual Property Rights
- Source for conflicts
 - Suppliers view: Costs for creating Background IP may significantly exceed PCP budget
 - Procurers dilemma: Amount of Relevant Background IP depends on solution proposed by supplier

Definition of IPR

- **Definition used in HBP PCP**
 - Any and all patent rights, inventions, trademarks, copyrights, topography rights, design rights, rights in and to databases, trade secrets and rights of confidence, know-how, trade or business names, domain names, whether or not any of them are registered or registerable and including applications for registration, renewal or extension of any of them, and any other rights or forms of protection of a similar nature which have an equivalent or similar effect to any of them which may now or in the future exist anywhere in the world
- **Aspect criticised by vendors: "Trade secrets"**
 - **Feedback: "Trade secrets are hard to manage; their very existence depends on them being kept a secret"**
 - **Reason: Software is often protected as "trade secret"**

Scope of licence

- **Who benefits from licence?**
 - Within projects this may extend beyond procurer or group of procurers
 - How relates number of beneficiaries with size of market?
 - **Human Brain Project:**
 - Procuring Entity
 - 5 project partners
 - Providers of the HBP HPC platform infrastructure
- **What is the scope of the licence?**

Scope of Licence (cont.)

- HBP PCP makes the following distinction
 - **Design specification**
 - Project result
 - **Design implementation**
 - Only required to demonstrate technology readiness
 - Design implementation likely contaminated by Background IP
- **Licence to design specification**
 - **Licence to use IPR for purposes the Procuring Entity shall in its absolute discretion deem fit**
 - **Irrevocable, worldwide, free and non-exclusive license**
- **Licence to design implementation**
 - **Licence to use implementation non-commercially**

Conclusions

- IPR is a critical aspect of PCP
 - Strong impact on how attractive PCP is for potential suppliers
 - Suppliers may have strict internal rules on IPR
- Difficult balance between risks and benefits
 - Suppliers risk = access to Background IPR
 - Balance between costs for Background IPR and PCP budget
- Careful analysis of all aspects required
 - Details can be in conflict with supplier's internal rules
- Dialogue with vendors is key