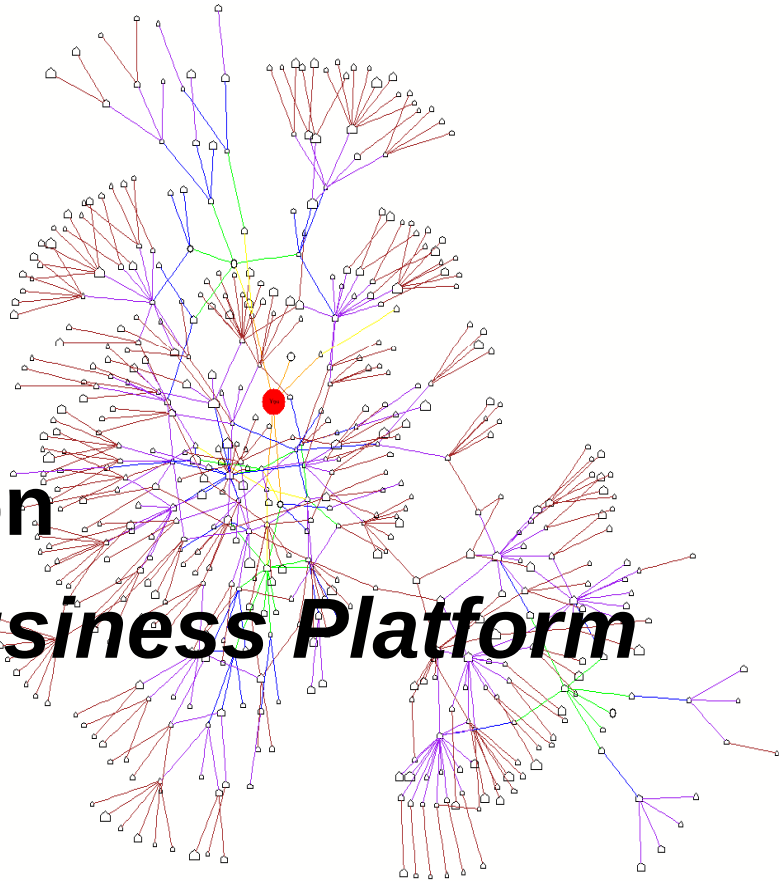
HC-BP



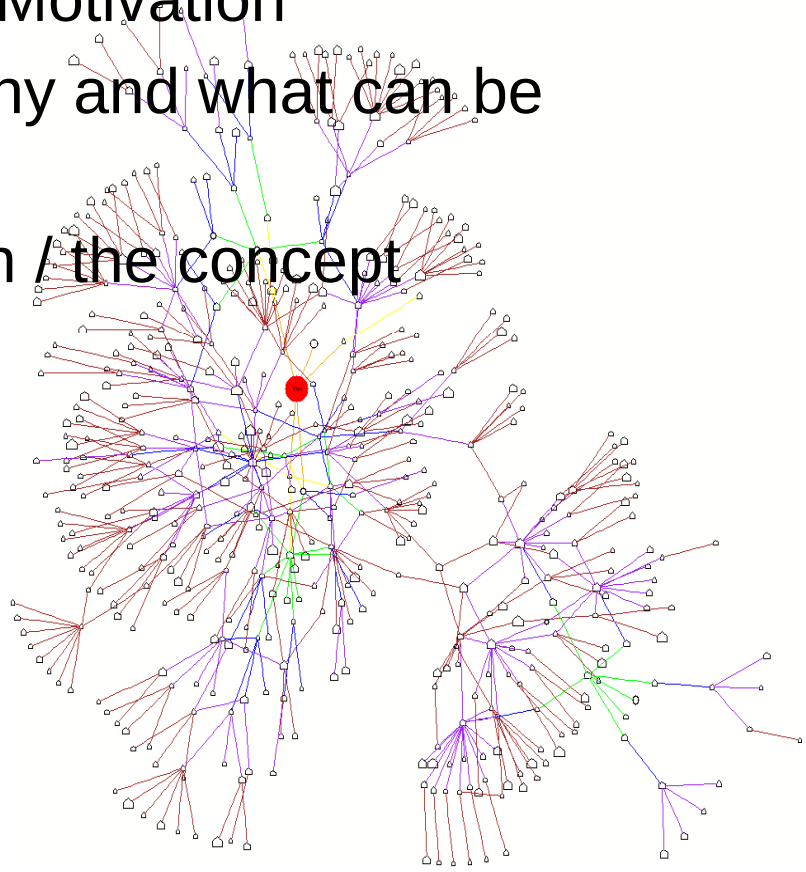
Presentation

High Communication - Business Platform

P2P

Agenda

- Introduction/Facts of HC-BP/ Motivation
- Market research/analysis / Why and what can be solved
- How is the technical approach / the concept
- Next Steps
- Questions and Answers
- Contacts

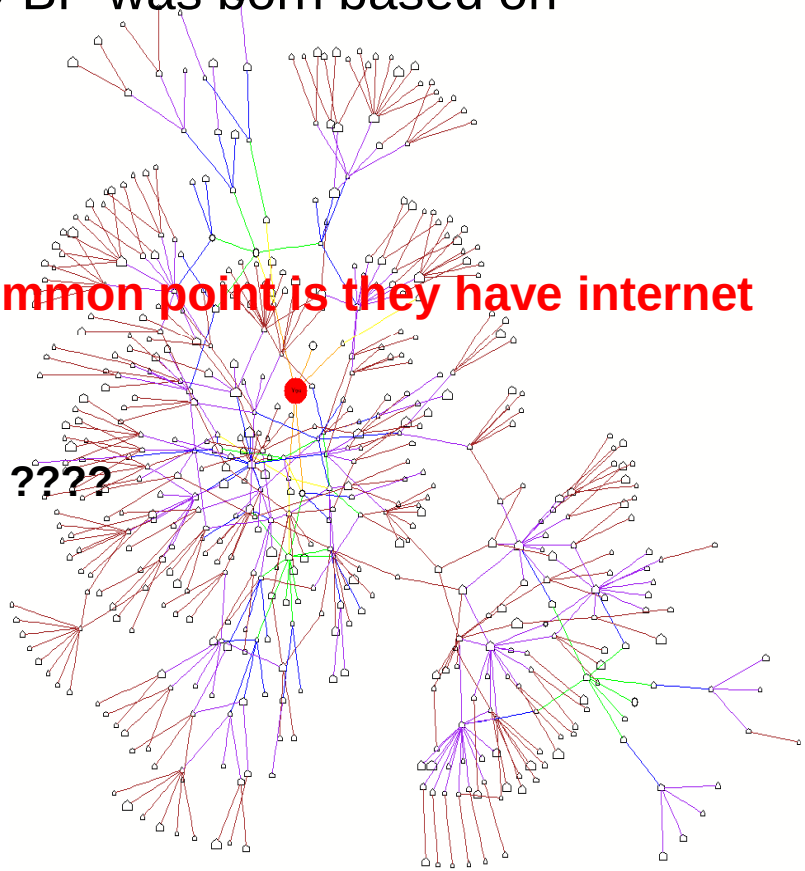


Motivation for HC-BP

The whole motivation for such a HC-BP was born based on

A wants to make business with B, the only common point is they have internet

What is the Answer ????



What is required for HC-BP

A wants to make business with B, the only common point is they have internet

- Which network structure is needed ?
- What standard interface can be used for everybody ?
- What do we need to cover as well a communication and collaboration platform ?
- What do we need to make it stable and secure ?
- How can we generate new business for all participants ?
- We want no limit !
- Everybody is different how can we cover this flexibility ?
- It must be cheap !
- It must be usable !
- It must be independent !

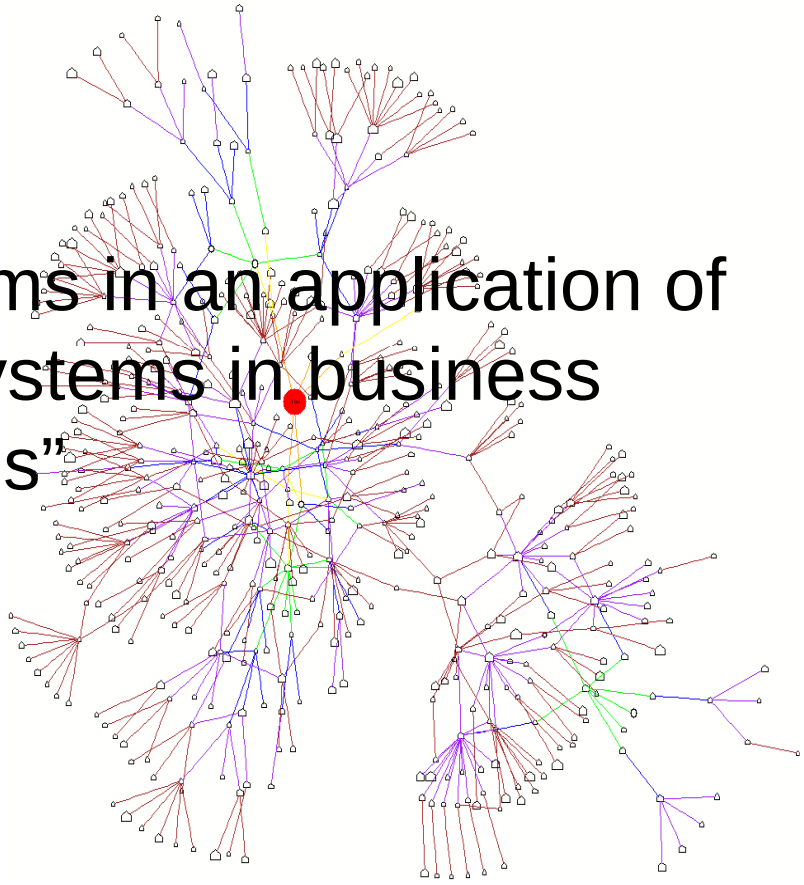
WE NEED A SOLUTION ⇒ ***HC-BP***

Introduction/Facts of HC-BP

- In this presentation the concept of a new business platform which integrates workflow management and/or the procurement and sales actions will be presented.
- The concept combines different elements into a new set of business interactions
- The information flow is based on a P2P network which contain a central point with distributed super peers
- Business Transaction requests will be managed in a centralized database
- The Workflow is industry independent and can combine different industry within one workflow

Title

„Analysis of the P2P paradigms in an application of workflow management systems in business processes”

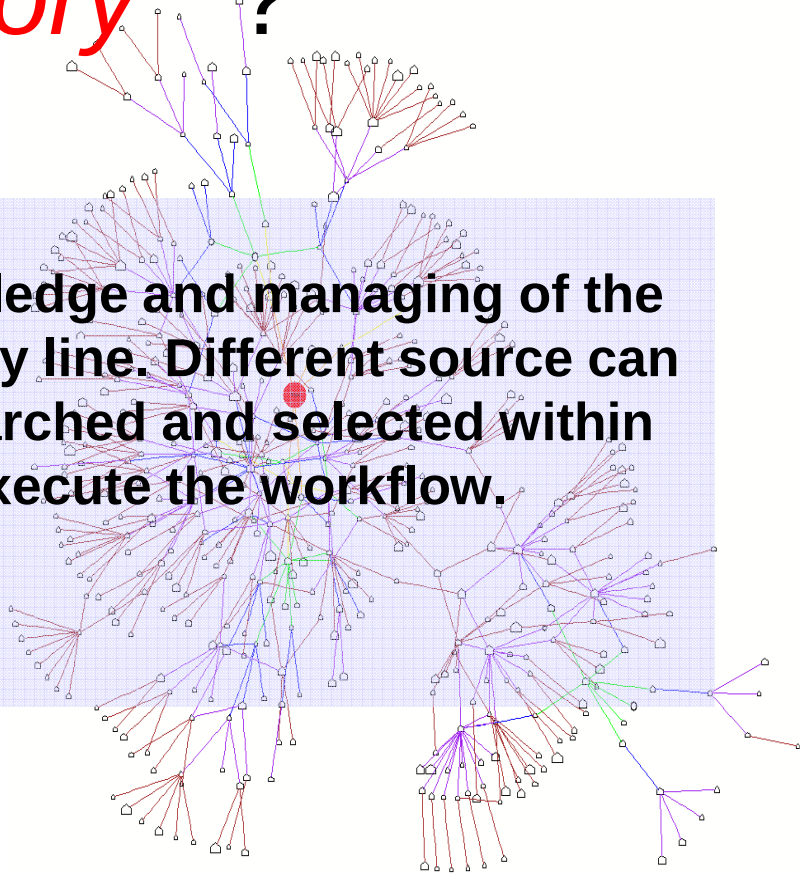


Definition for “*e-factory*” ?

The use of workflows, having the knowledge and managing of the workflows, abstracts the whole assembly line. Different source can be used for the assembly and been searched and selected within the communication platform to execute the workflow.

This is:

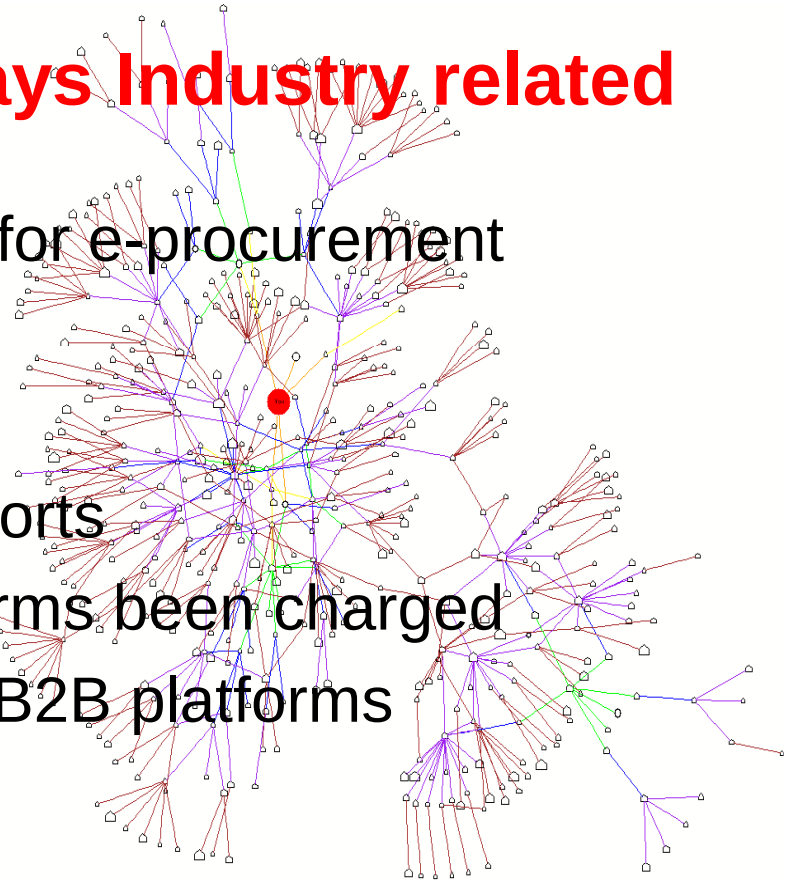
“*e-factory*”



Market research / analysis

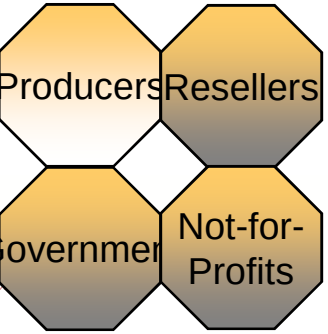
Trading Platforms are always Industry related

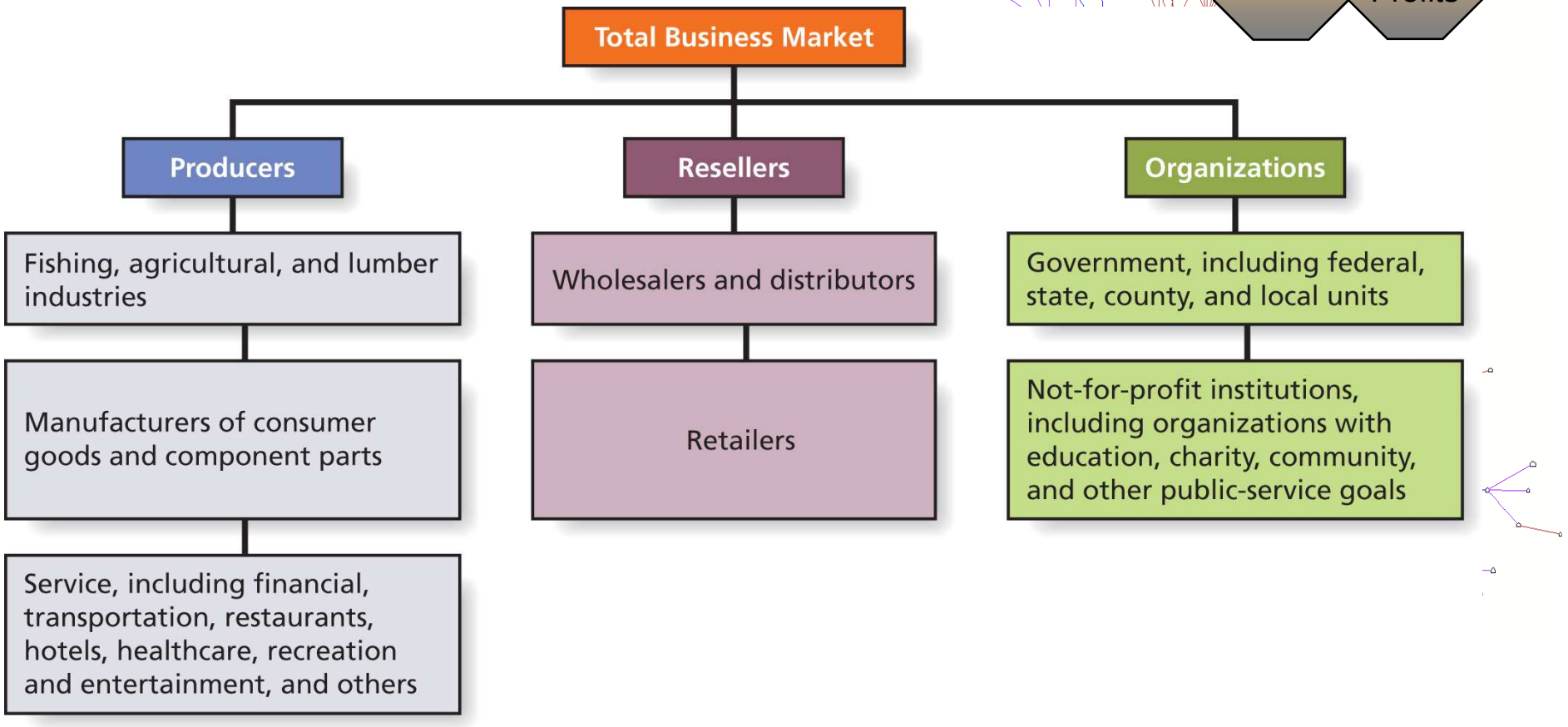
- Trading platforms are been used for e-procurement
- Available since 1990
- Only available for one industry
- Aim is to reduce cost and time efforts
- membership to the trading platforms been charged
- Most of the trading platforms are B2B platforms



What is B2B/ Classification

B2B = Business to Business





B2B/ Buying Process

Problem Recognition

Information Search

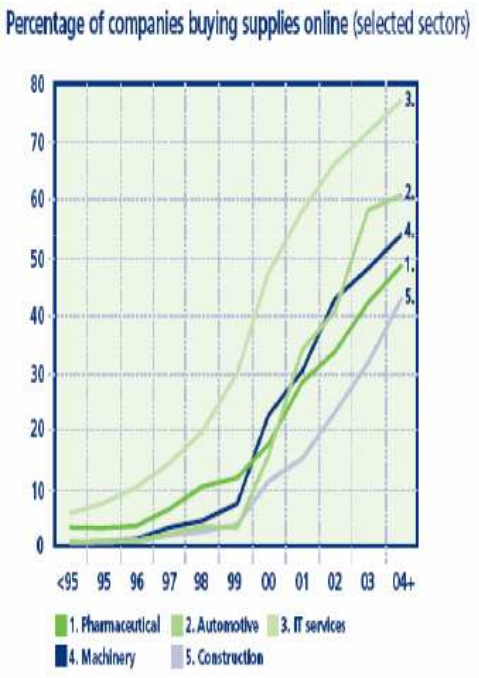
Alternative Evaluation

Product/ Supplier Selection

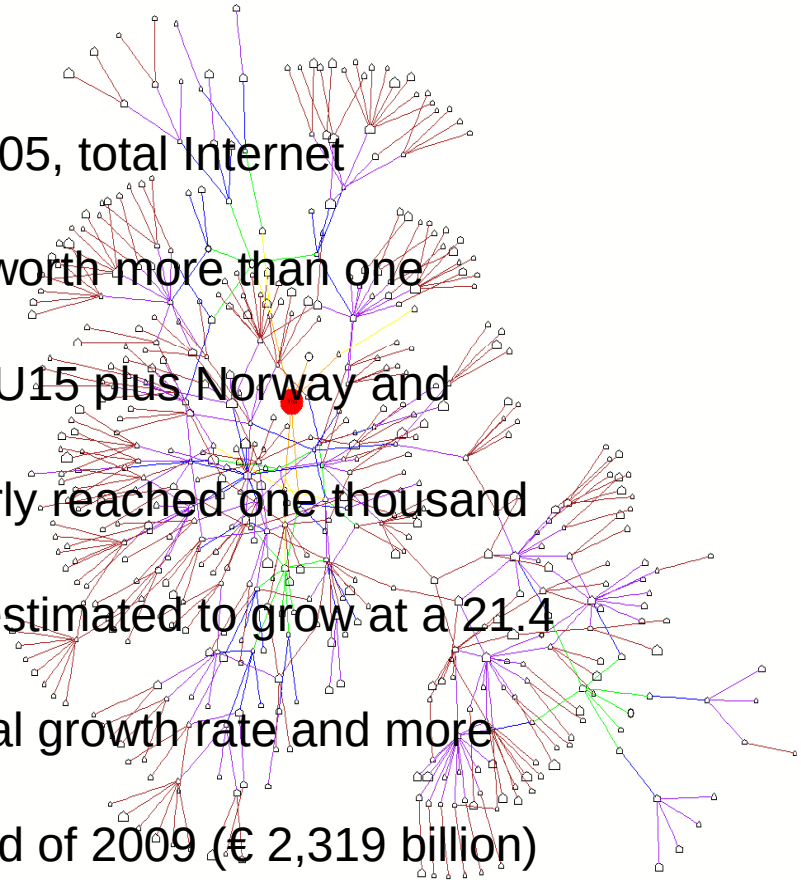
Postpurchase Evaluation

- Internet exchanges between two or more businesses or organizations
- Allows marketers to link directly to suppliers, factories, distributors, and their customers
- Reduces time necessary to order and deliver goods, track sales, and get feedback

Market Development-1



Source : e-business w@tch2005

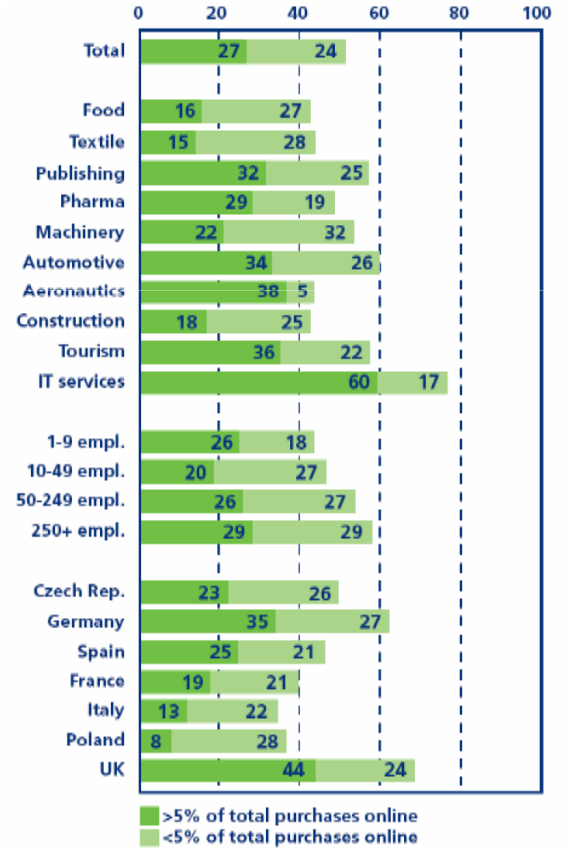


•At the end of 2005, total Internet commerce
(B2B/B2C) was worth more than one thousand
billion Euro (in EU15 plus Norway and Switzerland)
• B2B alone nearly reached one thousand billion
• The market is estimated to grow at a 21.4 %
compound annual growth rate and more than
double by the end of 2009 (€ 2,319 billion)

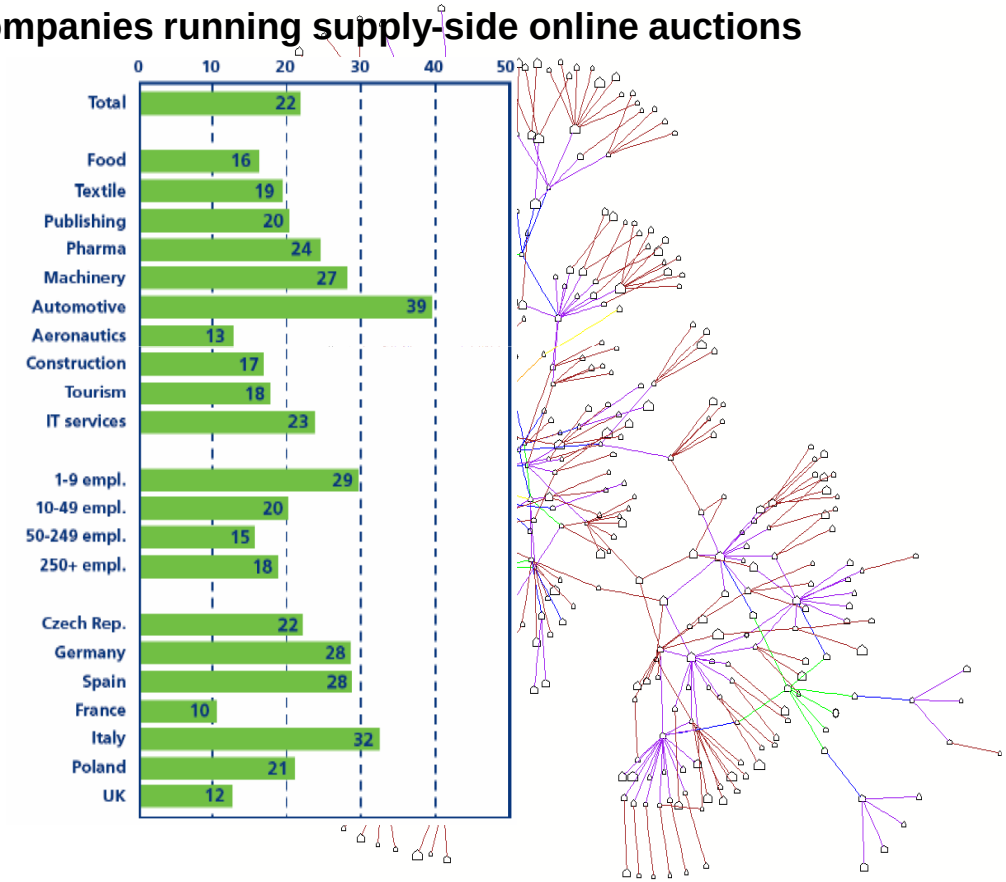
Source : EITO – European Information Technology Observatory 2005

Market Development-2

Companies buying supplies online



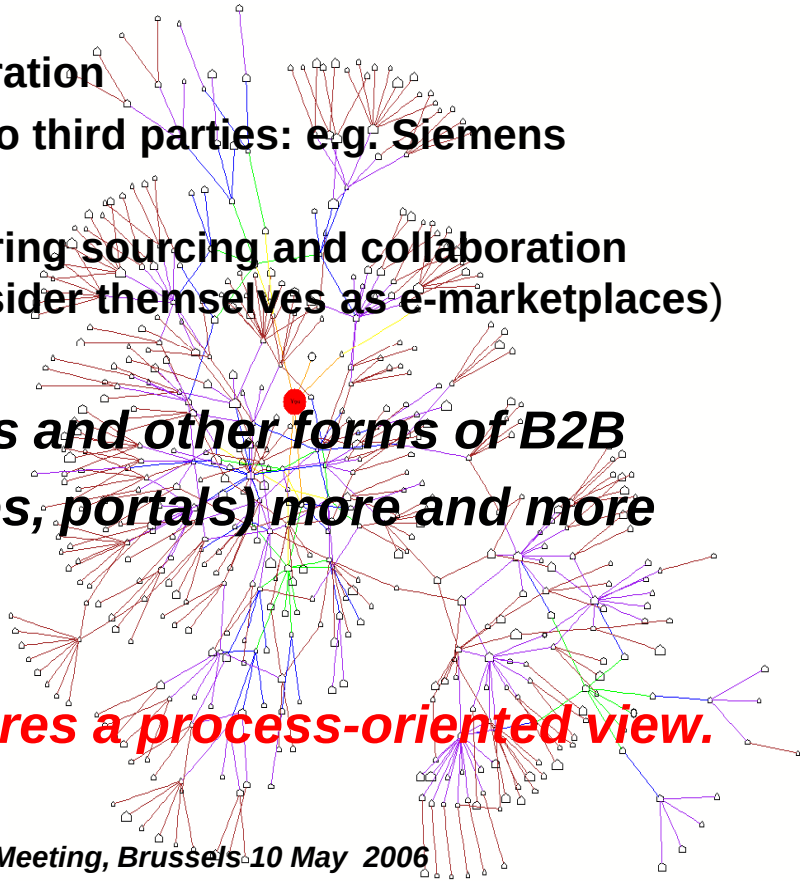
Companies running supply-side online auctions



Source: e-business w@tch 2005

Market Trends-1

- Towards process support
  - **Success of market platforms supporting integration**
  - **Increasing number of private e-markets open to third parties: e.g. Siemens Click2Procure, trimondo, t-mart,....**
  - **Substantial number of service providers offering sourcing and collaboration solutions on-demand (but often do not consider themselves as e-marketplaces)**



Distinction between public e-markets and other forms of B2B e-commerce (e.g. private marketplaces, portals) more and more blurry.

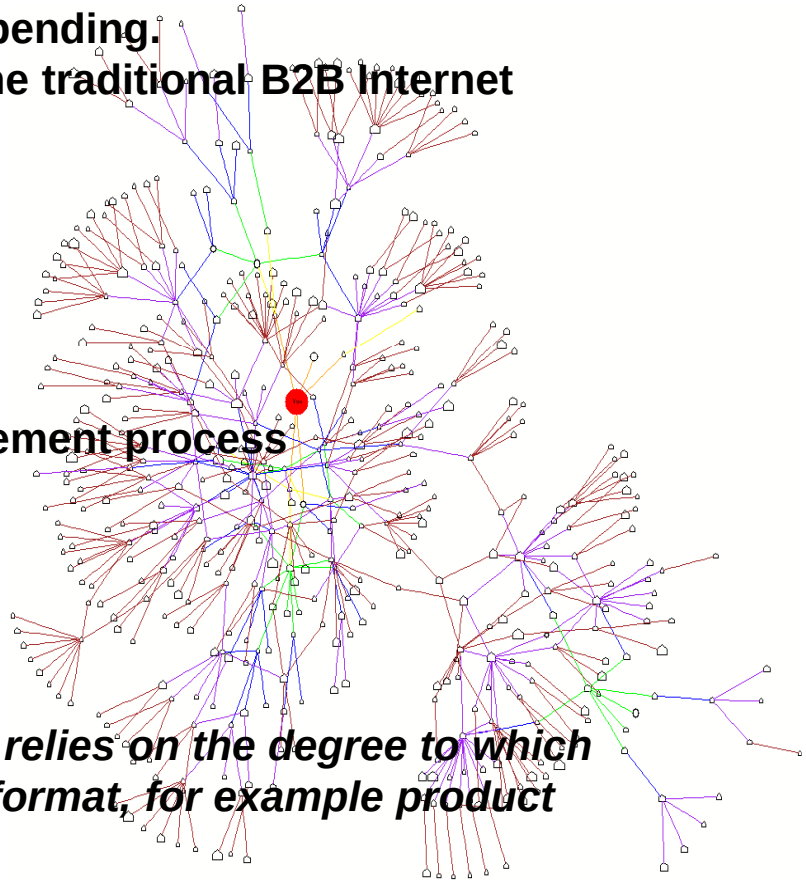
Understanding of B2B trade today requires a process-oriented view.

Source : Enterprise Directorate General B2B group Meeting, Brussels 10 May 2006

Market Demands

B2B continues to make up the majority of total spending.
New concepts are emerging that will further define traditional B2B Internet commerce:

1. **Strategic sourcing**
2. **Supplier relationship management**
3. **New value chain models**
4. **Dynamic price finding tools, online auctions**
5. **Continuing automation of companies' procurement process**
6. **Uptake of standardisation**
7. **Uptake of e-invoicing**
8. **Radio Frequency Identification (RFID)**
9. **Emergence of e-payment systems**



Ultimately, the benefit of e-procurement systems relies on the degree to which documents can be exchanged in a standardised format, for example product catalogues, orders,invoices and payments

Source : Enterprise Directorate General B2B group Meeting, Brussels 10 May 2006

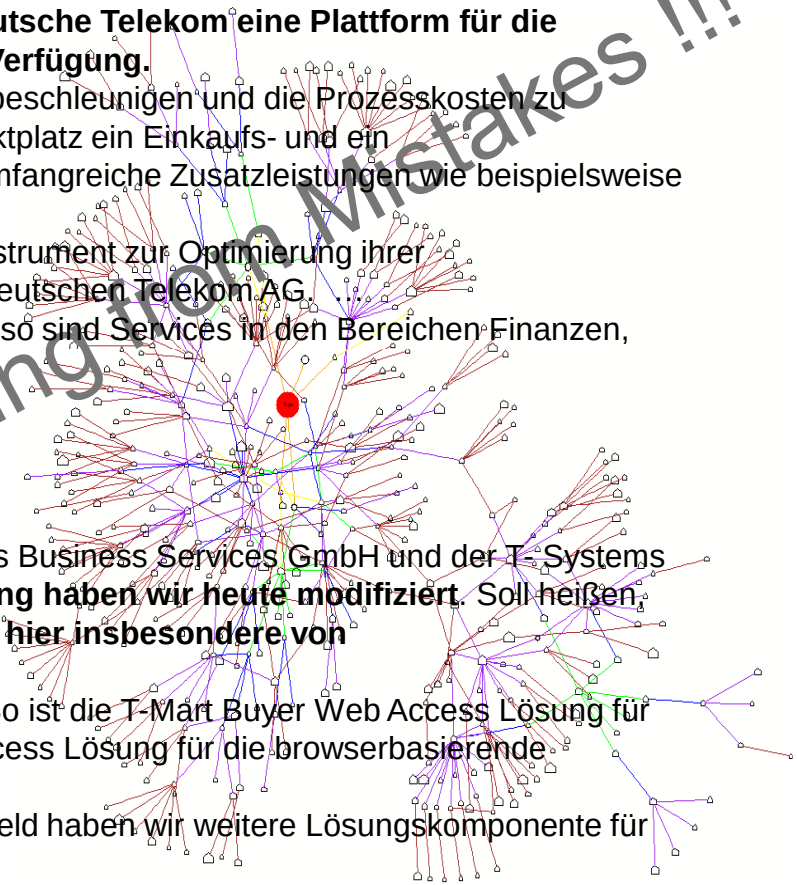
Market Solutions,nearest to HC-BP

T-MART (T-Systems)

Core Idea :

Deutsche Telekom eröffnet T-Mart
29.11.2000 | Artikel drucken
Mit dem branchenübergreifenden elektronischen Marktplatz stellt die Deutsche Telekom eine Plattform für die Beschaffung und Vermarktung von Verbrauchs- und Handelsgütern zur Verfügung.
Ziel ist es, Geschäftsprozesse zwischen den Unternehmen aller Branchen zu beschleunigen und die Prozesskosten zu verringern. Wesentliche Bestandteile von T-Mart sind neben dem Internet-Marktplatz ein Einkaufs- und ein Auftragsmanagement-System. Darüber hinaus bietet die Deutsche Telekom umfangreiche Zusatzleistungen wie beispielsweise **die Anbindung an das firmeneigene Warenwirtschaftssystem an.**
"Lieferanten wie Einkäufer verfügen mit T-Mart jetzt über ein wirkungsvolles Instrument zur Optimierung ihrer Geschäftsprozesse", erklärte Detlev Buchal, Vorstand Produktmarketing der Deutschen Telekom AG. ...
…In Zukunft wird T-Mart auch Auktionen und Ausschreibungen anbieten. Ebenso sind Services in den Bereichen Finanzen, Logistik und Geschäftsreisen geplant.

Source: http://www.ecin.de/news/2000/11/29/01179/



Today Feedback:

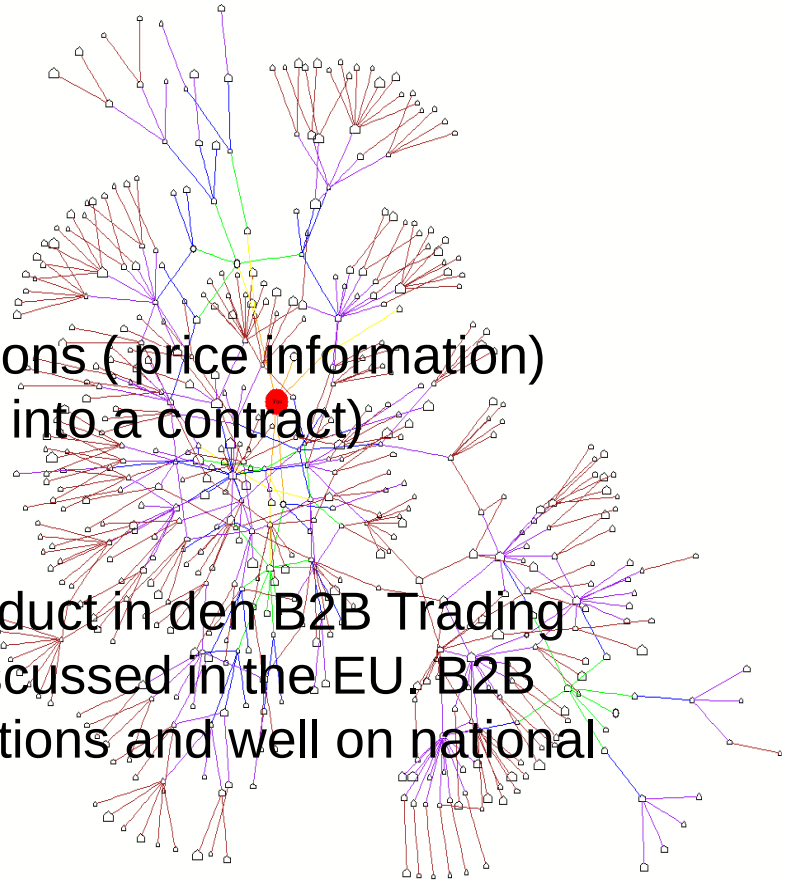
Ja, diese Lösung existiert weiterhin sehr erfolgreich im Portfolio der T-Systems Business Services GmbH und der T-Systems Enterprise Services GmbH. **Den Ursprungsgedanken einer Marktplatzlösung haben wir heute modifiziert.** Soll heißen, wir bieten den T-Mart als **Routingplattform von Geschäftsdokumenten und hier insbesondere von Geschäftsdokumenten im Beschaffungsbereich an.**
An die T-Mart Lösung haben wir weitere Lösungskomponenten angebunden. So ist die T-Mart Buyer Web Access Lösung für die browserbasierende Beschaffung geeignet und die T-Mart Supplier Web Access Lösung für die browserbasierende Lieferantenanbindung geeignet.
Zur Abrundung unseres Lösungsportfolios im elektronischen Beschaffungsumfeld haben wir weitere Lösungskomponente für das Thema eSourcing und Katalogmanagement.

Source: email with T-Systems

Market Conclusion

The Market can be divided into

- e- procurement solution
- or B2B platforms for
  - online auction
  - Non Binding discussions and negotiations (price information)
  - Legal binding transaction (which form into a contract)
- or only Workflow systems

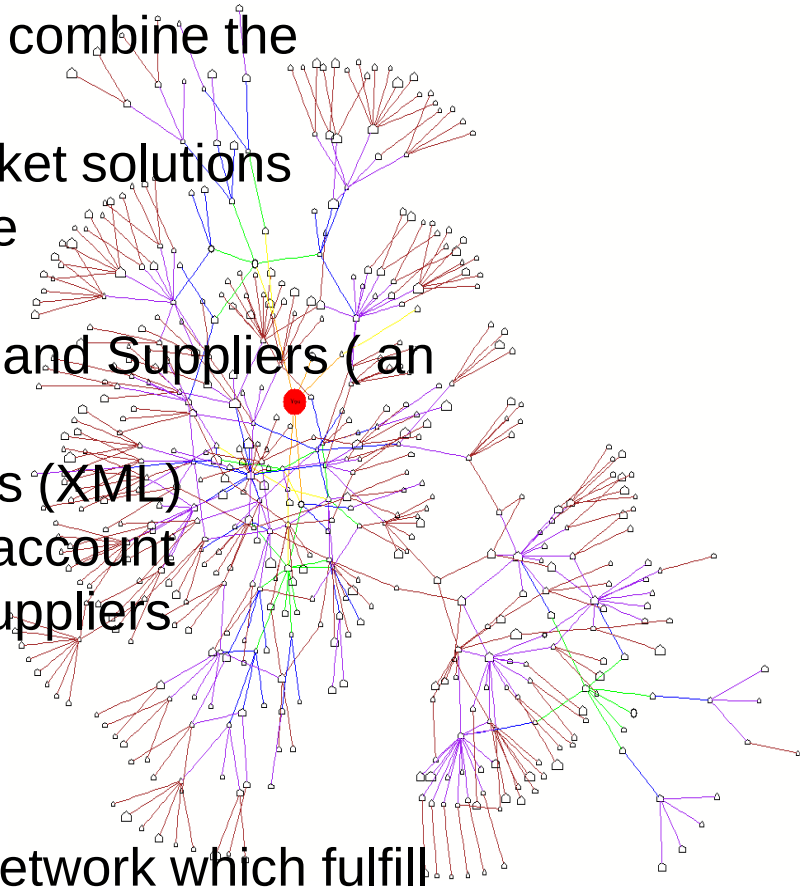


Note that there is currently no Code of Conduct in den B2B Trading platforms, the legal situation is currently discussed in the EU. B2B Platforms are relaying on Trems and Conditions and well on national laws.

Market Approach

We Need to have a trading platform which combine the

- Current e-procurement currently market solutions
- which contain a workflow and manage
- which can manage Track via RFID
- Which support negations whit buyers and Suppliers (an information platforms)
- Which interacts on standard interfaces (XML)
- which take the Code of Conduct into account
- which has low costs for buyers and suppliers
- The system must be secure

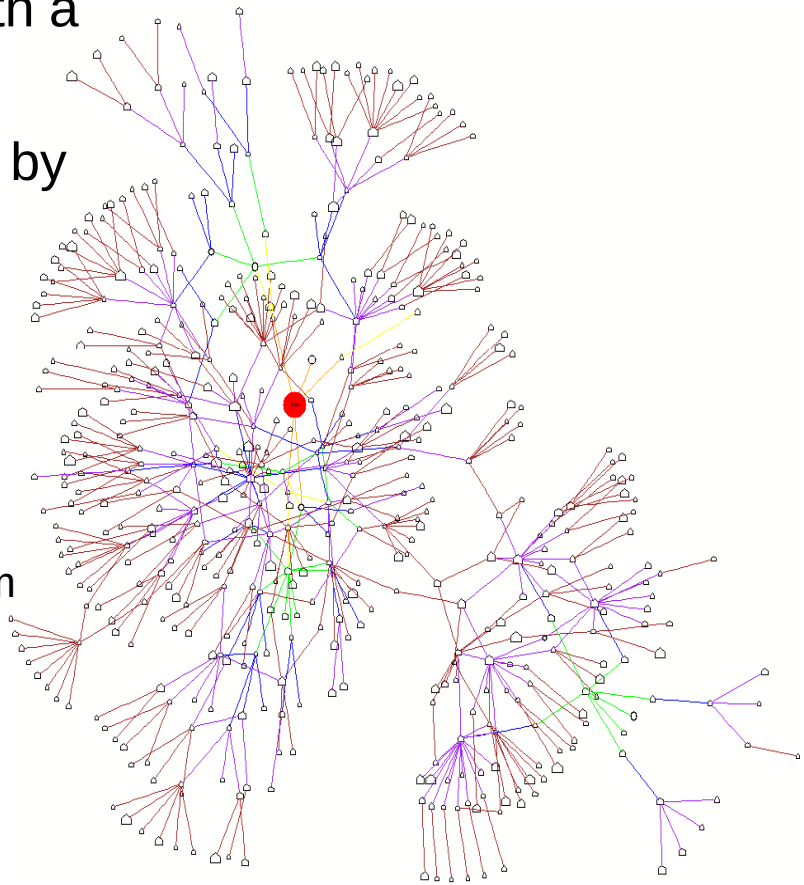


The Solution is =>

We need to have a P2P network which fulfill the requirements

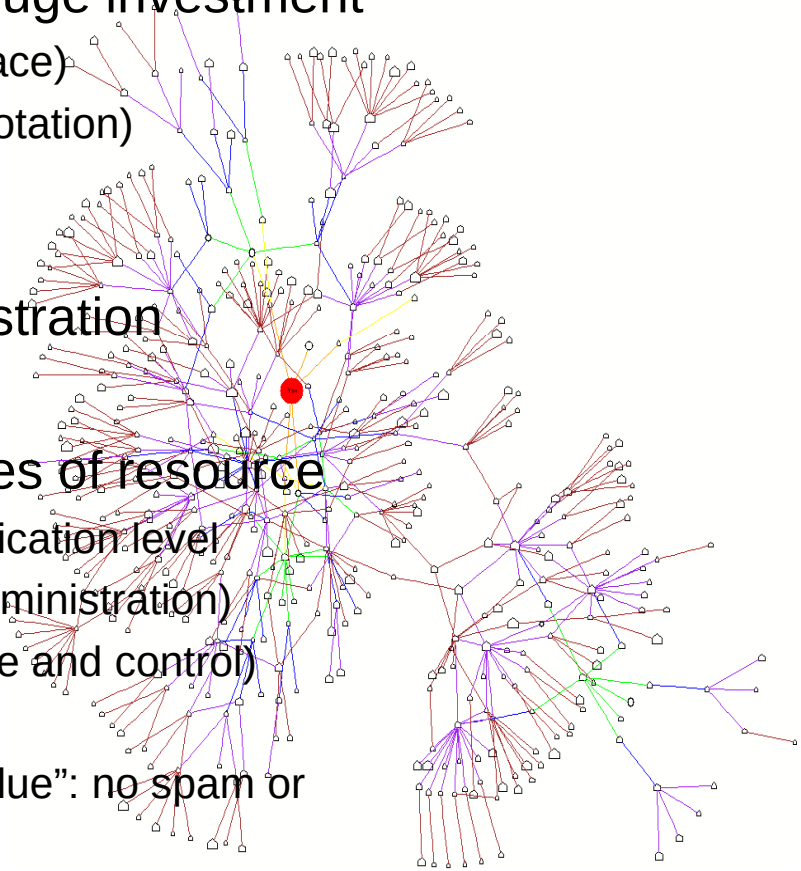
Technical Approach / What is P2P

- Every participating node acts as both a client and a server (“servent”)
- ¨ Every node “pays” its participation by providing access to (some of) its resources
- ¨ Properties:
  - no central coordination
  - no central database
  - no peer has a global view of the system
  - global behavior emerges from local interactions
  - all existing data and services are accessible from any peer
  - peers are autonomous
  - peers and connections are unreliabl



Technical Approach / Why P2P

- Global information system without huge investment
  - exploit unused resources at nodes (space)
  - exploit users knowledge at nodes (annotation)
  - No limit for scalability
- Decentralization of cost and administration
- Resurrection of the Internet principles of resource
  - sharing and decentralization at the application level
  - avoid performance bottleneck (cost, administration)
  - avoid single points of failure (knowledge and control)
  - nodes acted as clients and servers
  - cooperation was a central goal and “value”: no spam or
  - exhaustive bandwidth consumption



How does a Workflow look like (High Level)

Buyer Process

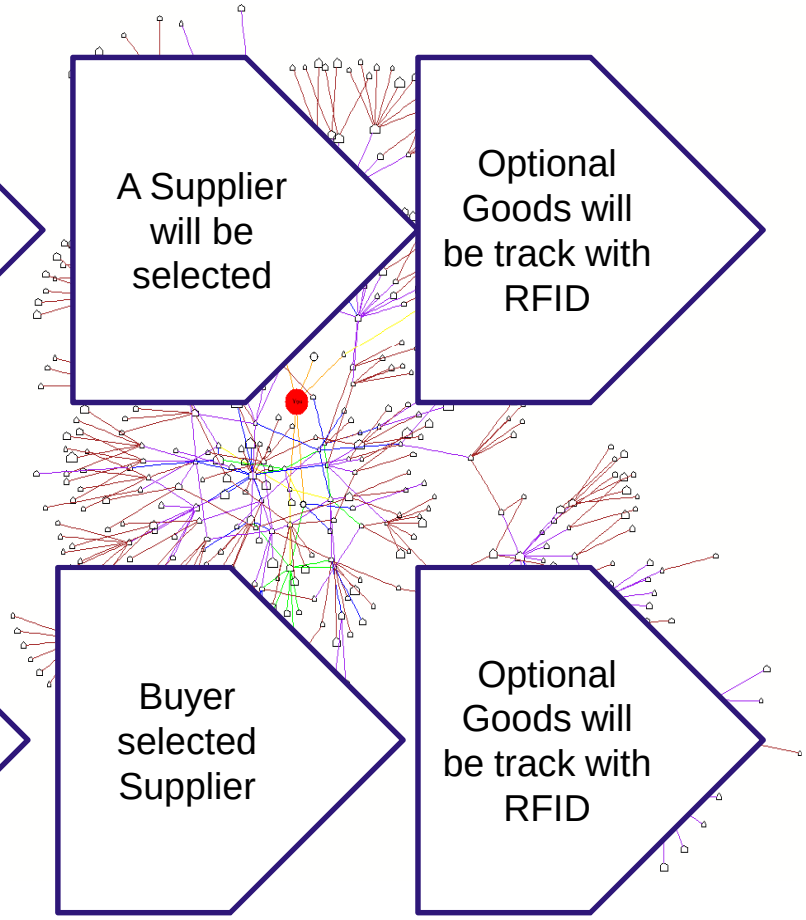
BSP -1 send a (Buyer) request into the network

Request will be distributed in the network

Feedback will be collected to the request

A Supplier will be selected

Optional Goods will be track with RFID



Supplier Process

BSP -1 send a (Supplier) request into the network

Request will be distributed in the network

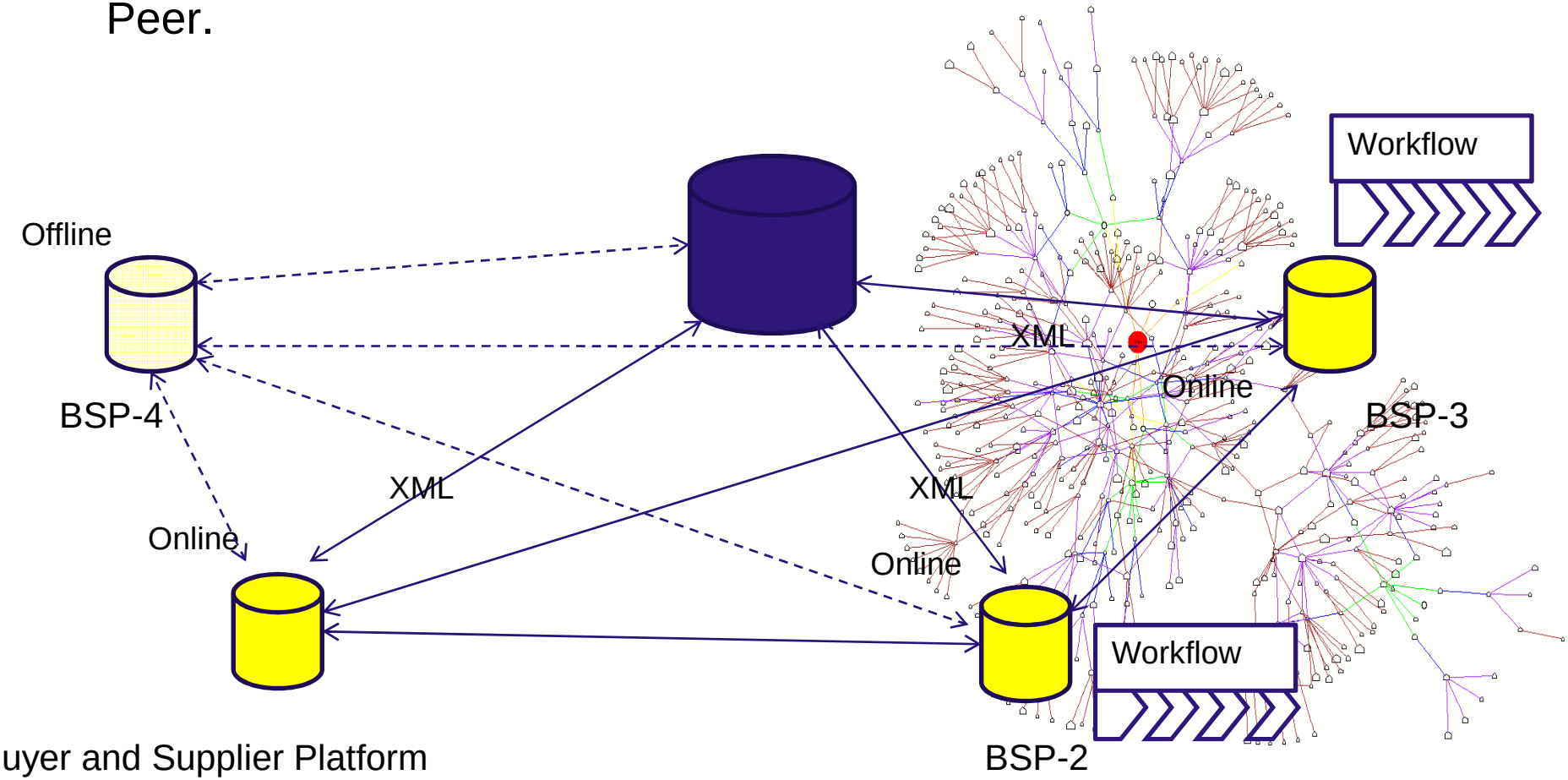
Feedback will be collected to the request

Buyer selected Supplier

Optional Goods will be track with RFID

“The Idea”HC-BP with Workflow

- The Idea is to setup a P2P network which contain a Workflow in each Peer.



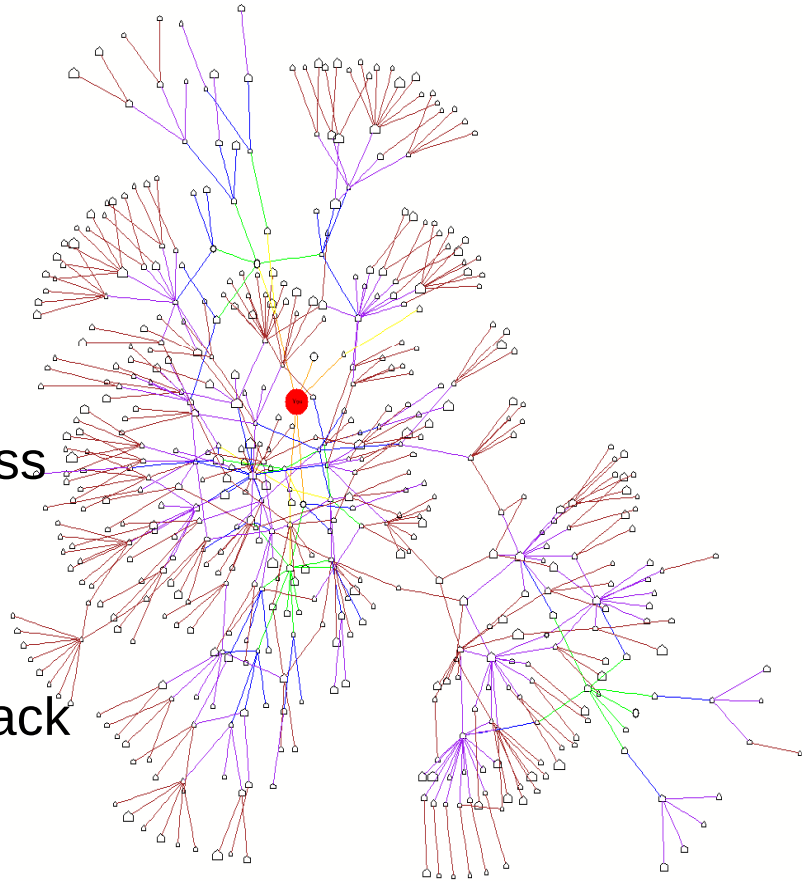
Which Peer to Peer network is needed

- Easy to modify and flexible
- High performance
  - => Fulfilled by definition of P2P

- Must be Secure
  - => Centralized login

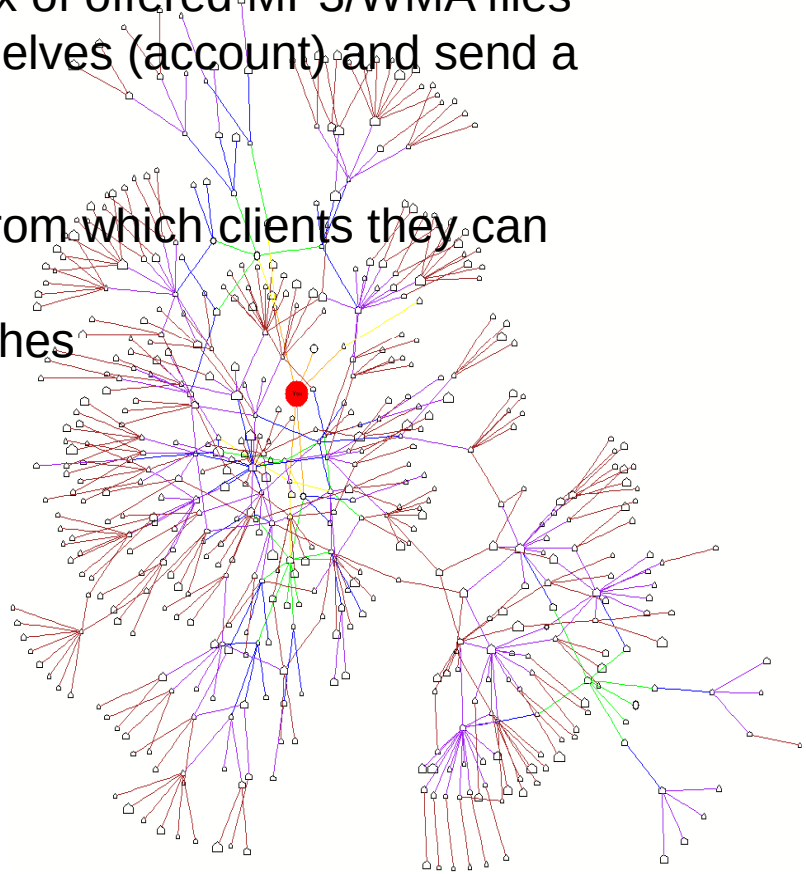
- Data must be stored securely , no data loss
  - =>managed over Super peers

Results : a Mixture of Napsters and Fasttrack



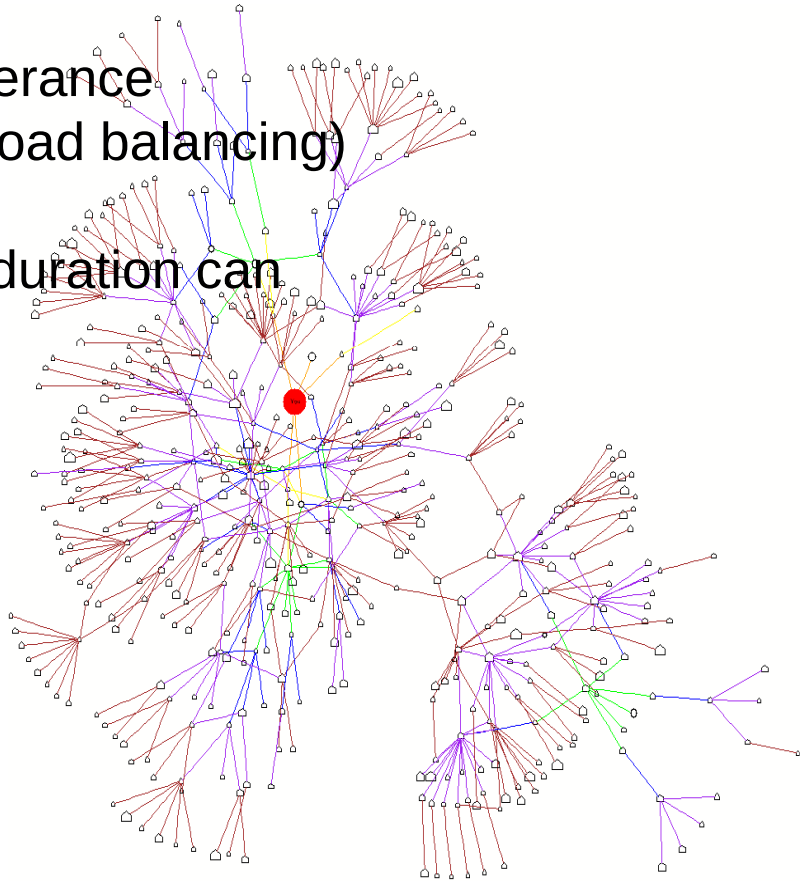
What is Naspter

•Central (virtual) database which holds an index of offered MP3/WMA files
•Clients(!) connect to this server, identify themselves (account) and send a list of
•MP3/WMA files they are sharing (C/S)
•Other clients can search the index and learn from which clients they can retrieve the file (P2P)
•Combination of client/server and P2P approaches
•First time users must register an account



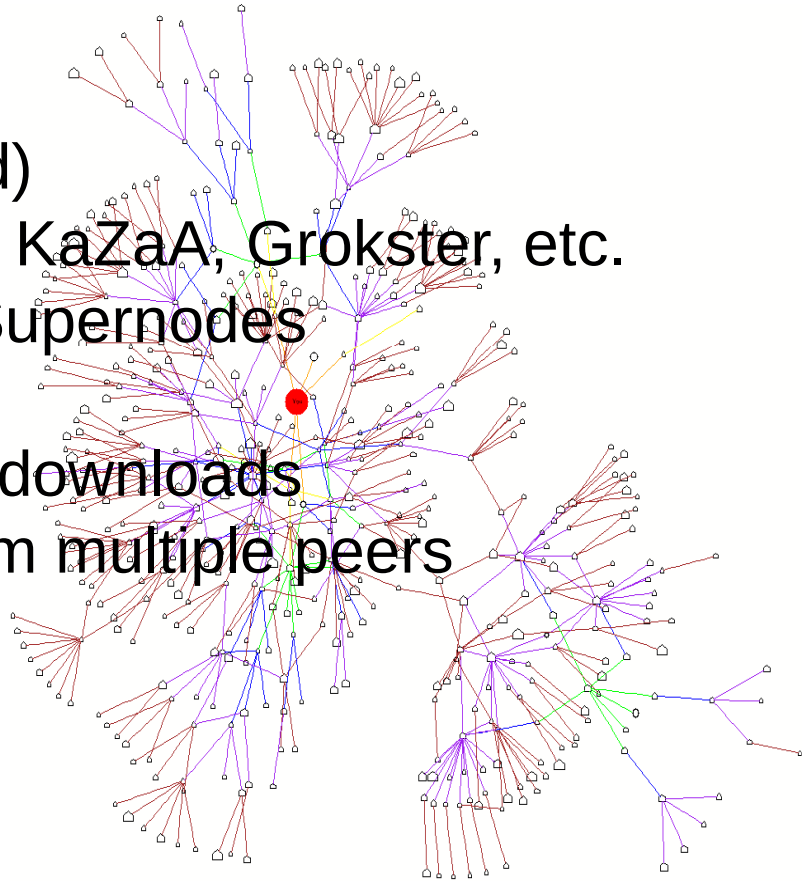
Naspter Architecture -2

- (Virtually) centralized system
  - single point of failure limited fault tolerance
  - limited scalability (server farms with load balancing)
- Protocol is complicated and inconsistent
- Querying is fast and upper bound for the duration can
- be given
- „Topology is known”
- Reputation of peers is not addressed
- Many add-on services users like

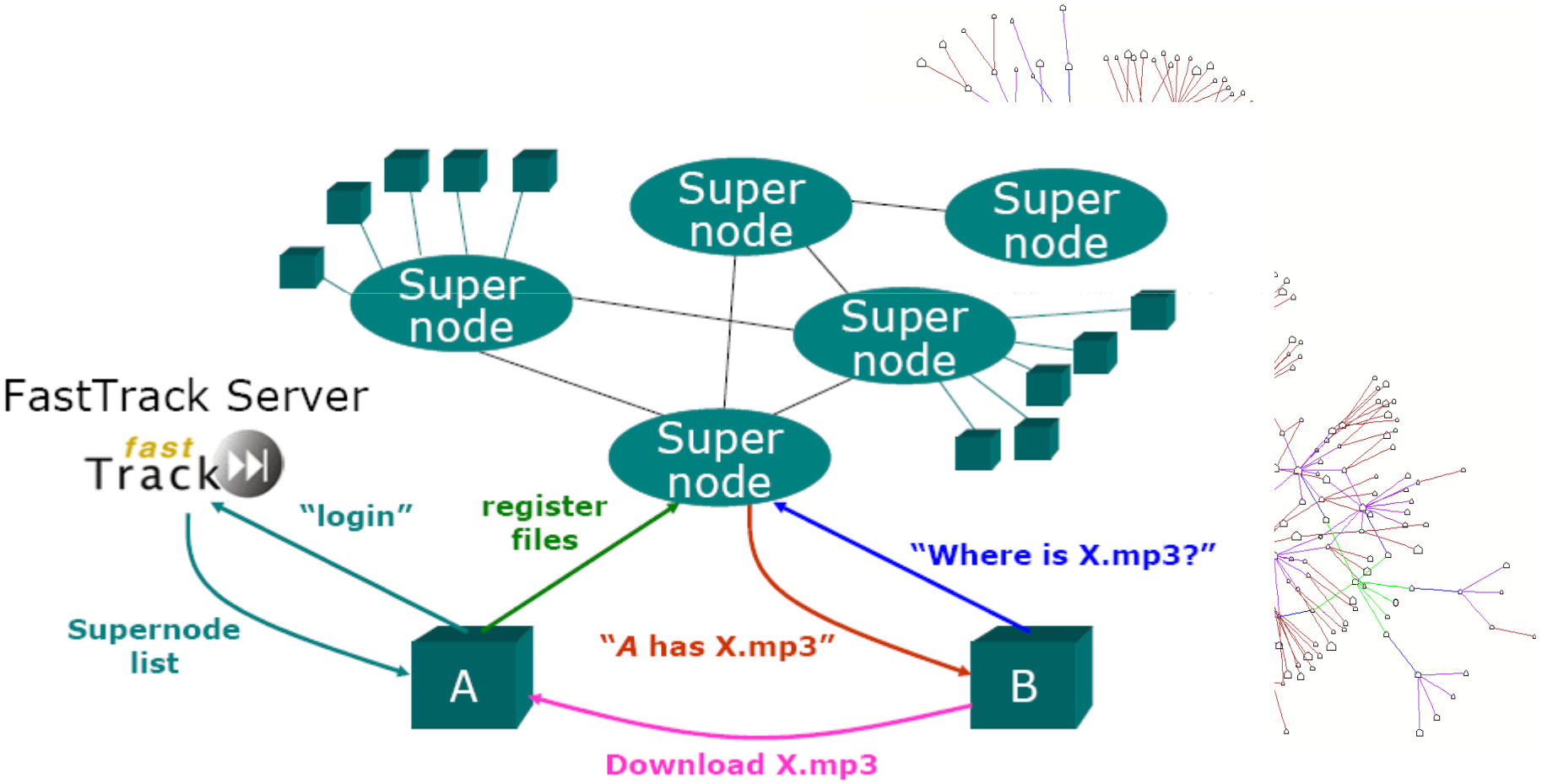


What is Fasttrack

- "Hierarchical Napster"
- Not truly decentralized
- Protocol is not open (not published)
- Used by several P2P applications: KaZaA, Grokster, etc.
- Peers can be elected to become Supernodes
- (possibility to opt out)
- SmartStream: fail-over system for downloads
- FastStream: parallel download from multiple peers

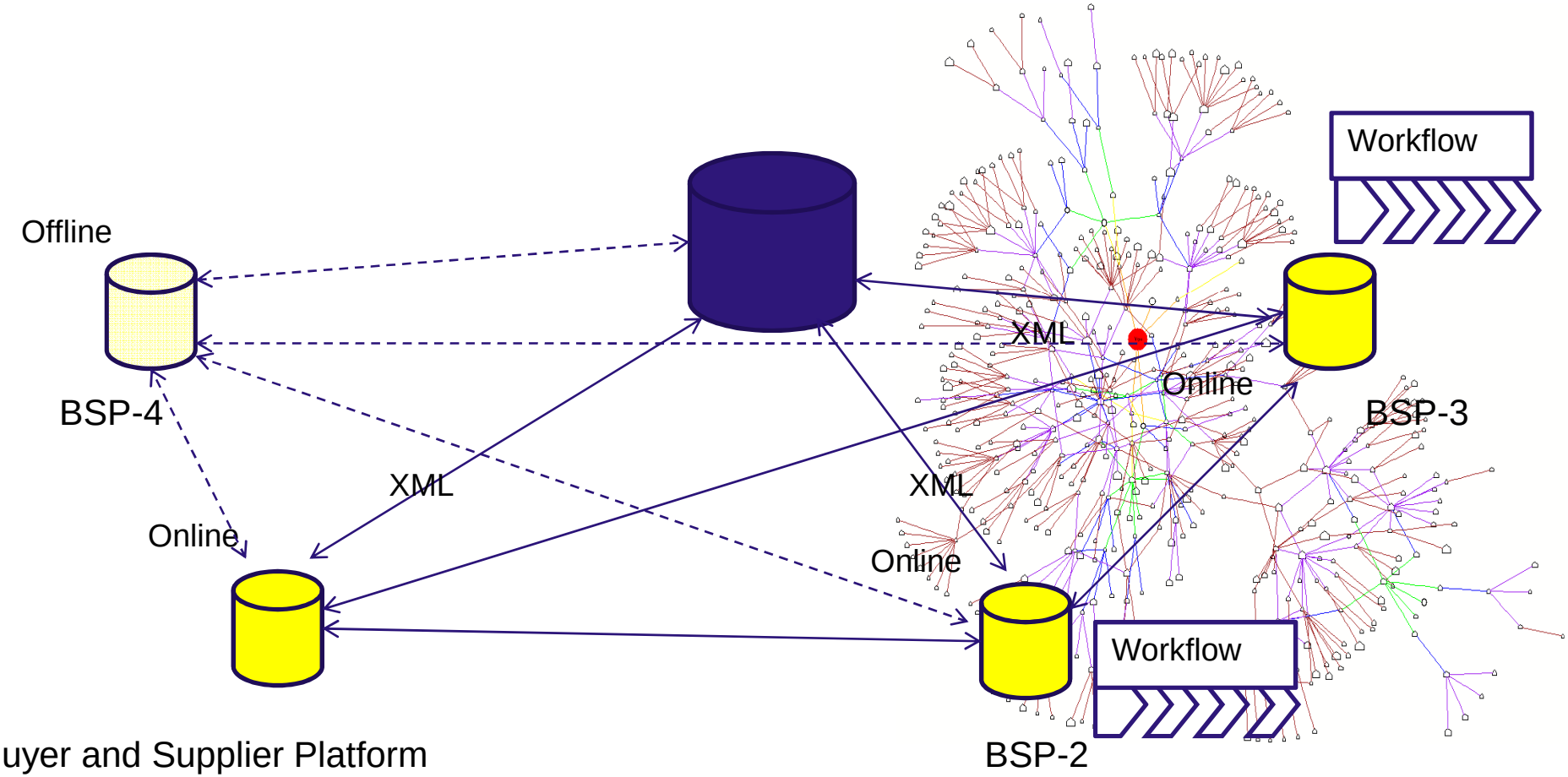


Fasttrack Superpeer Architecture



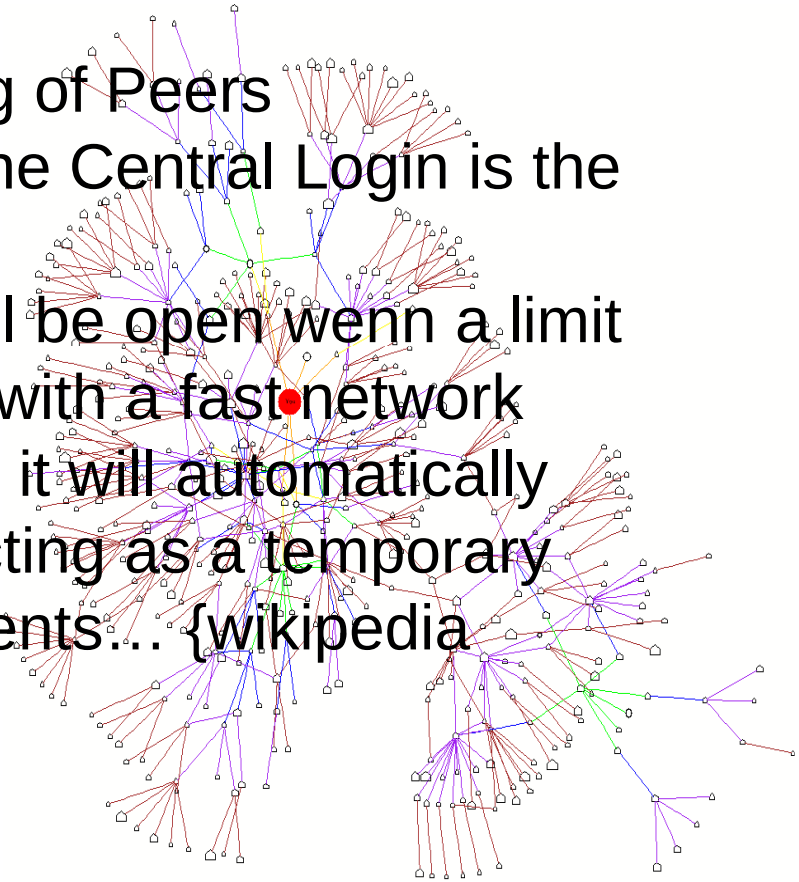
New Structure for the HC-BP

The was the basic structure of the HC-BP Solution

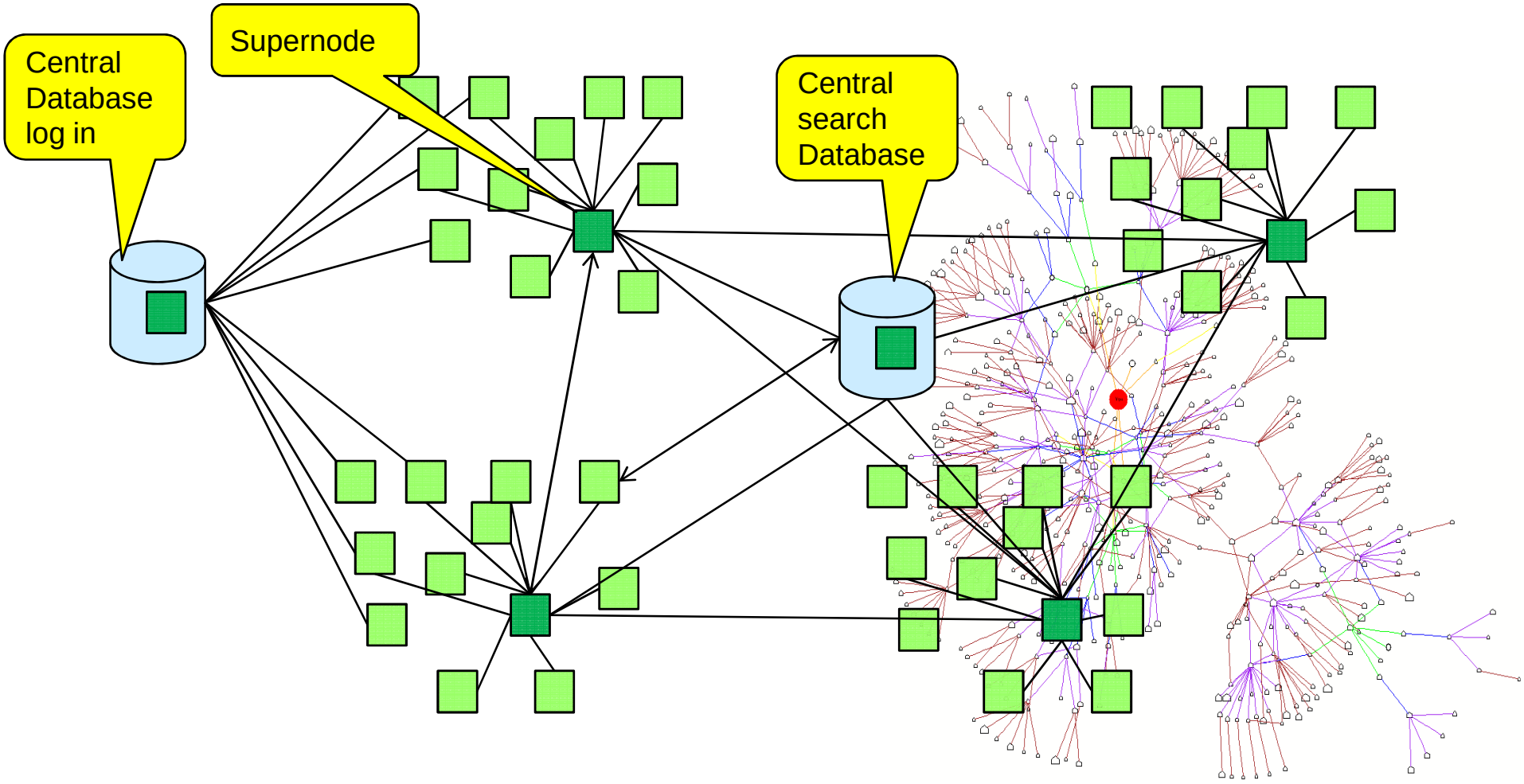


New Structure for the HC-BP

- A Central Login Database
- A Supernode is a internal Grouping of Peers
- If there are no other Supernodes the Central Login is the Supernode.
- A Supernode a new Supernode will be open wenn a limit is reached (…a powerful computer with a fast network connection runs the client software, it will automatically become a supernode, effectively acting as a temporary indexing server for other, slower clients… {wikipedia about fasttrack})

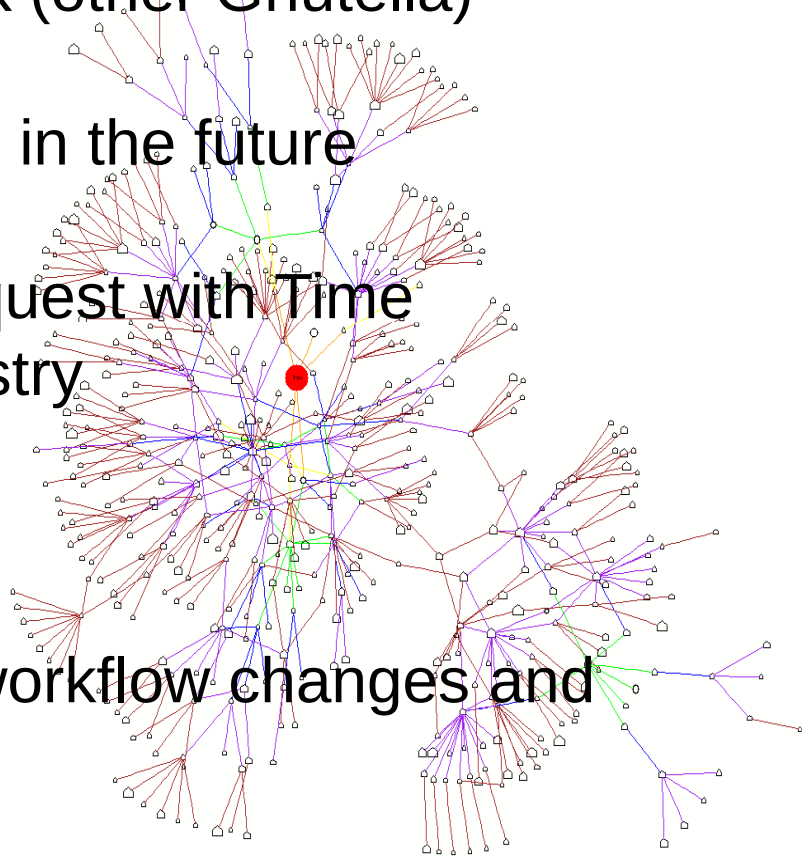


New Structure for the HC-BP



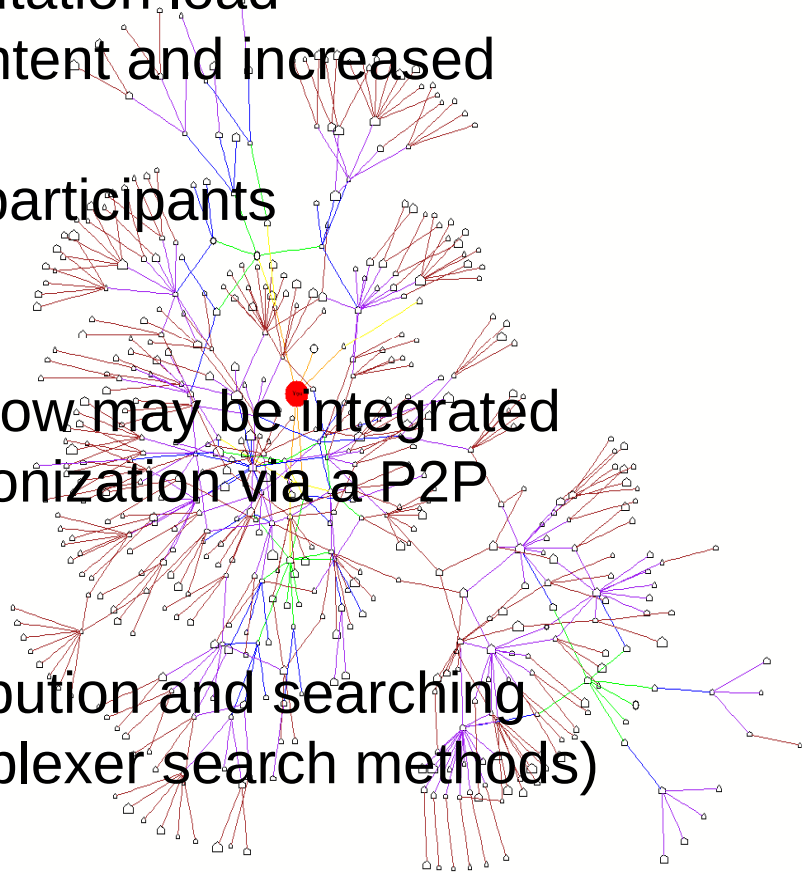
What is different for the HC-BP

- A Mixture of Napster and Fasttrack (other Gnutella)
- Contains a workflow system
- Application for B2B trading or B2C in the future
- Low Volume of data
- Limit Time for Requests end of request with Time
- Industry Independent for any industry
- Covers the market Demands
- Low cost of ownership
- Standard interfaces
- It support corrections (e.g. if the workflow changes and adapt it)



What is new?

- Combination of P2P approaches and analyzing in a B2B application
  - Distribution of network and computation load
  - Distribution of information and content and increased security
  - Overhead free join and leave for participants
  - Improved data actuality

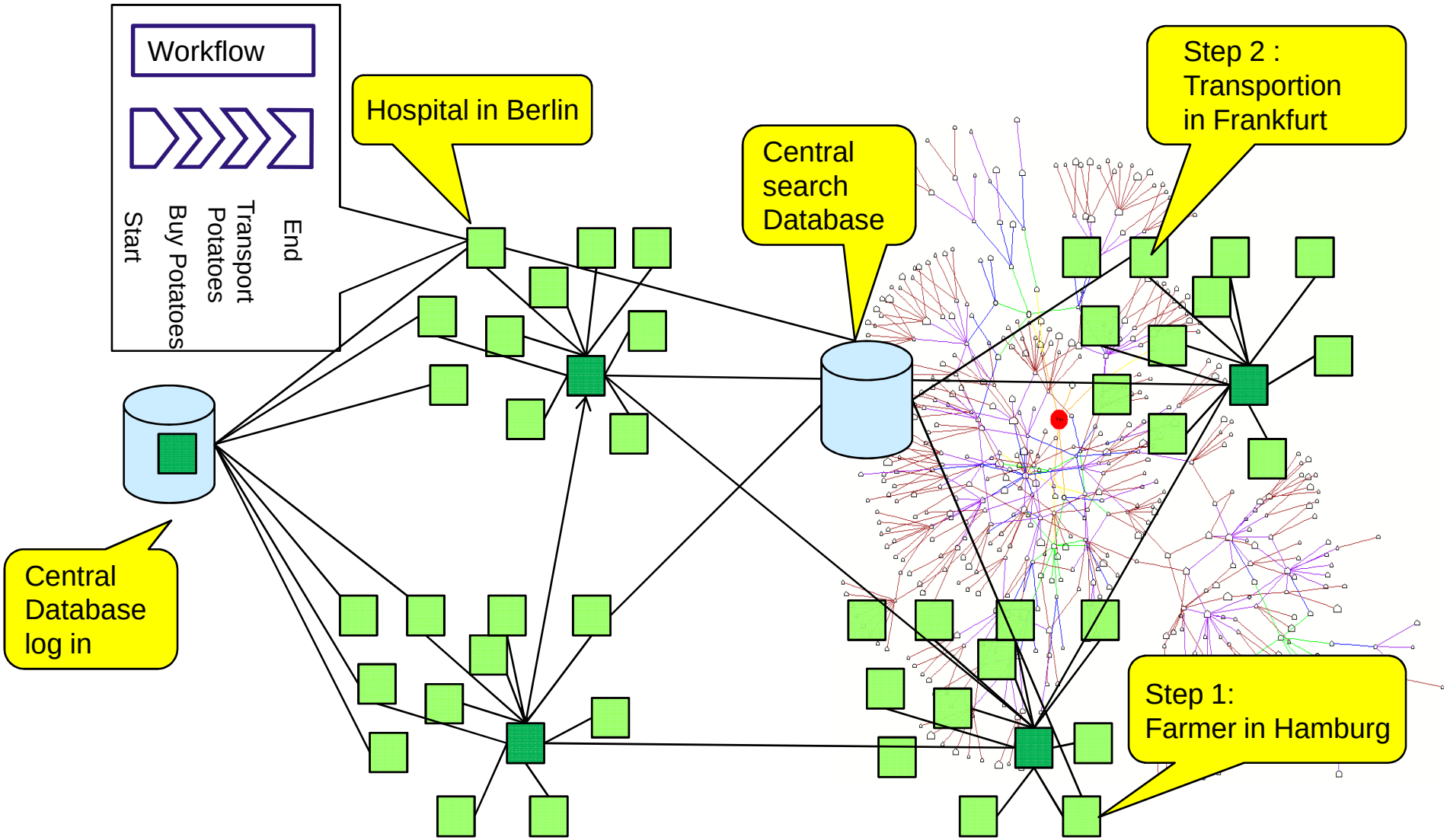


- For the first time a COMPLEX Workflow may be integrated with process development and synchronization via a P2P network

- Researching on the information distribution and searching within the P2P network (new and complexer search methods)

- A new security concept within P2P network for this application

Sample1: Potatoes for the Hospital



Sample1

The workflow is been split into

Step1

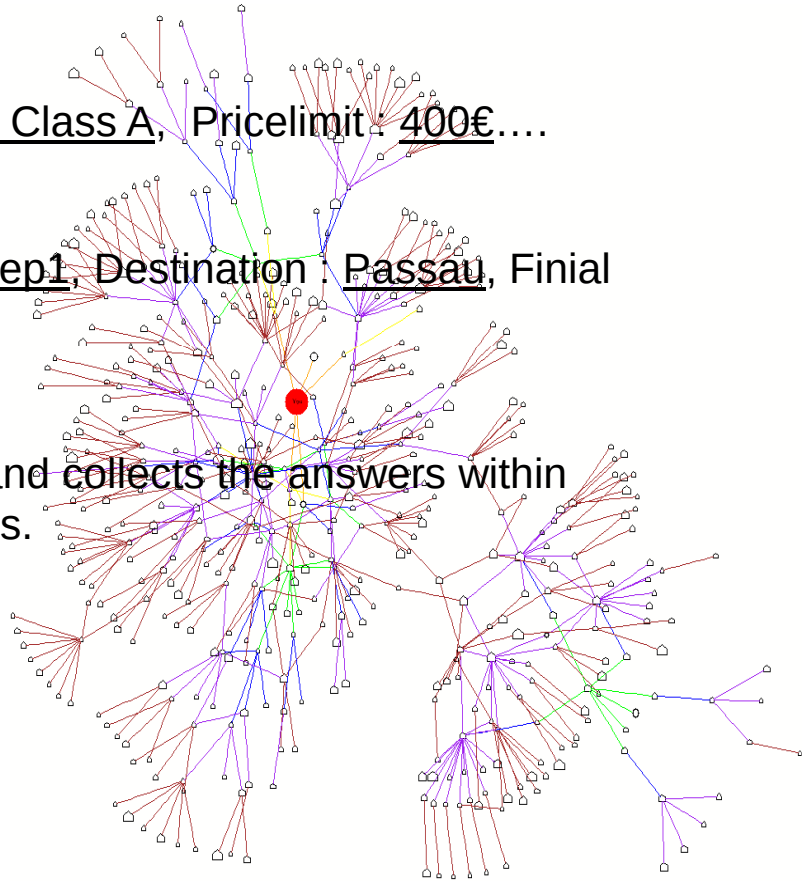
The Hospital seeks for Potatoes.

1. Attributes are : Quantity : 800KG, Type : Class A, Pricelimit : 400€….

Step2

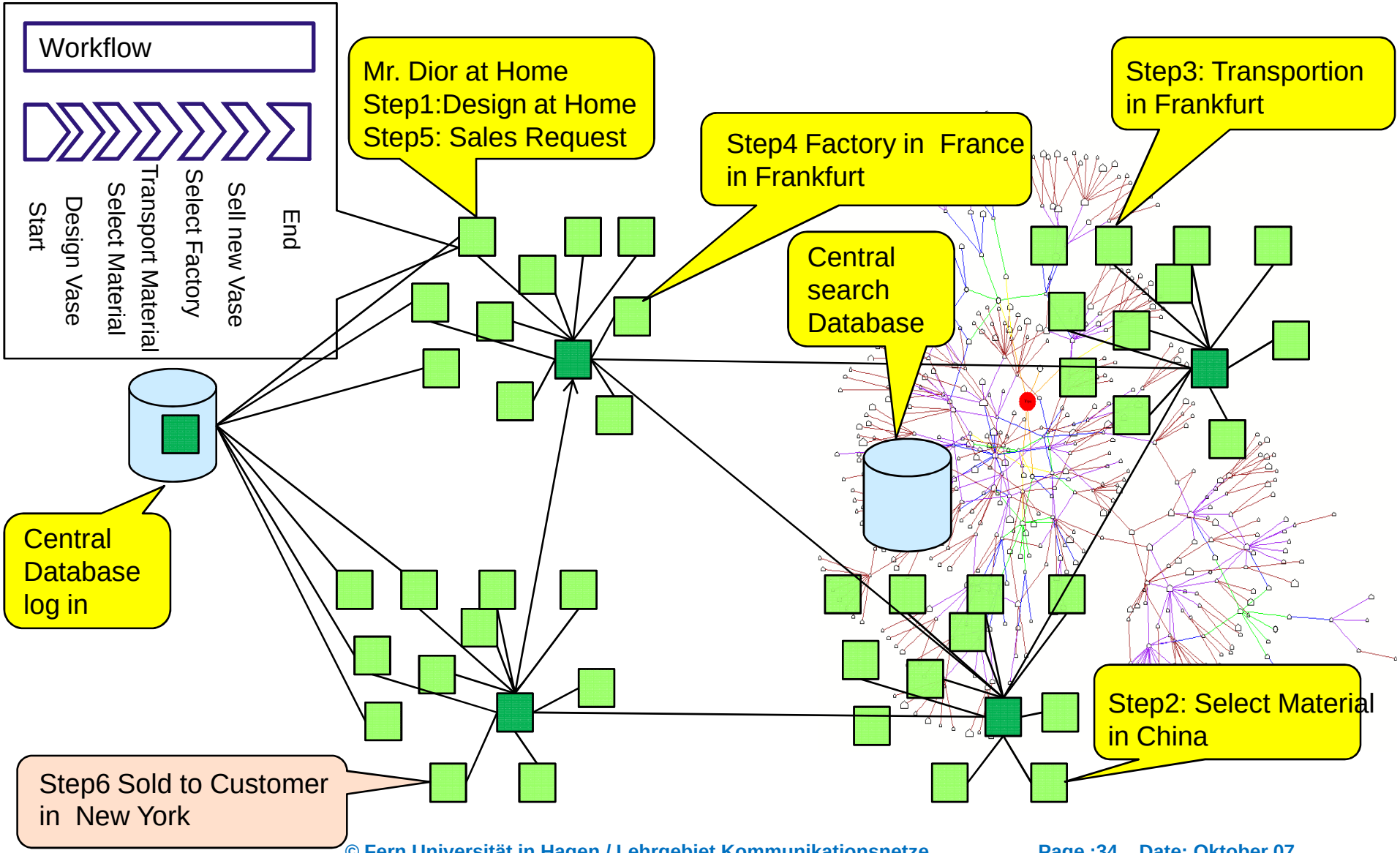
The Hospital seeks for a transportation

1. Attributes are : Startpoint : defined by Step1, Destination : Passau, Finial Delivery Date: DD-MM-YYYY, Pricelimit : 200€, …



- The Network Distributes the business transactions and collects the answers within the workflow. As the workflow can have dependencies.
- The workflow also have limits e.g. Price and Time

Sample2 : A new designed vase



Sample2

The workflow is been split into

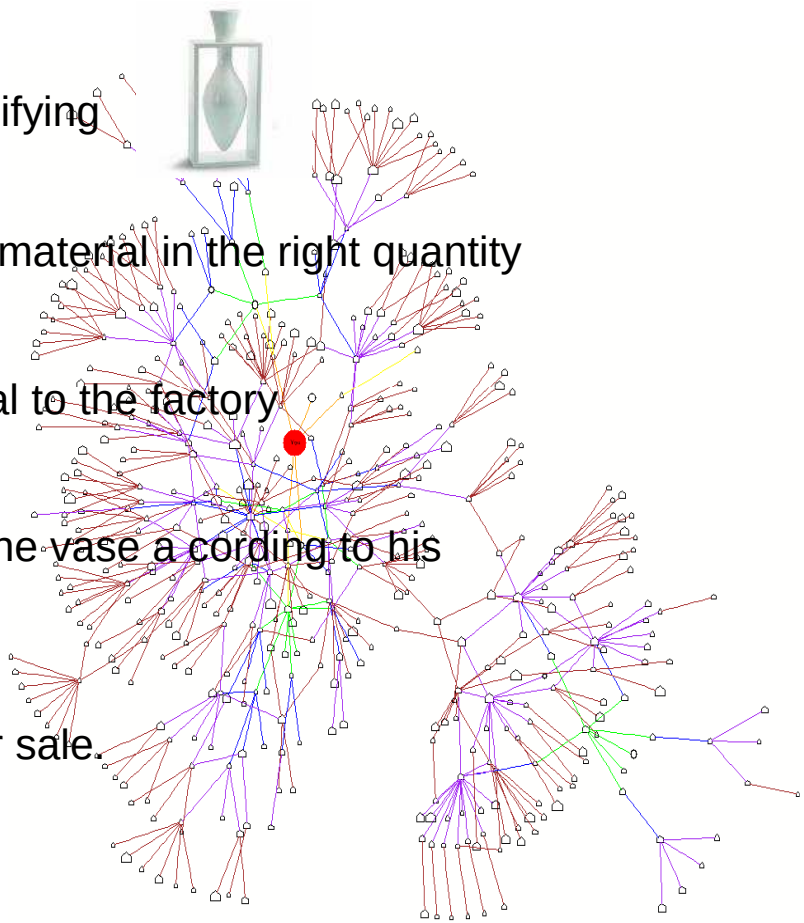
Step1
Mr. Dior is sitting at home designing a vase and specifying

Step2
He is looking a company providing him with the right material in the right quantity

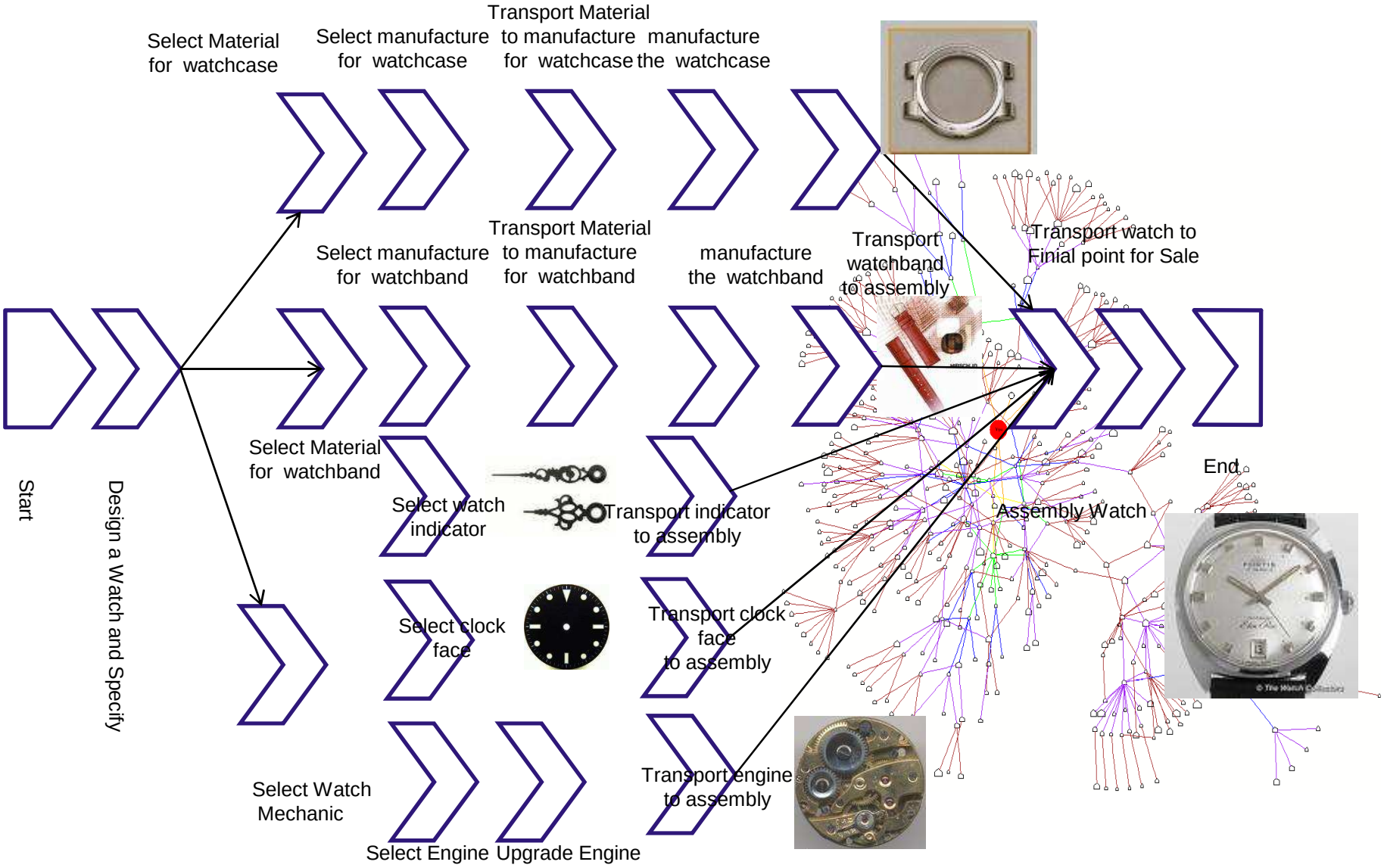
Step3
He is looking a company transporting him the material to the factory

Step4
He is looking a company who can manufacture him the vase a cording to his specification

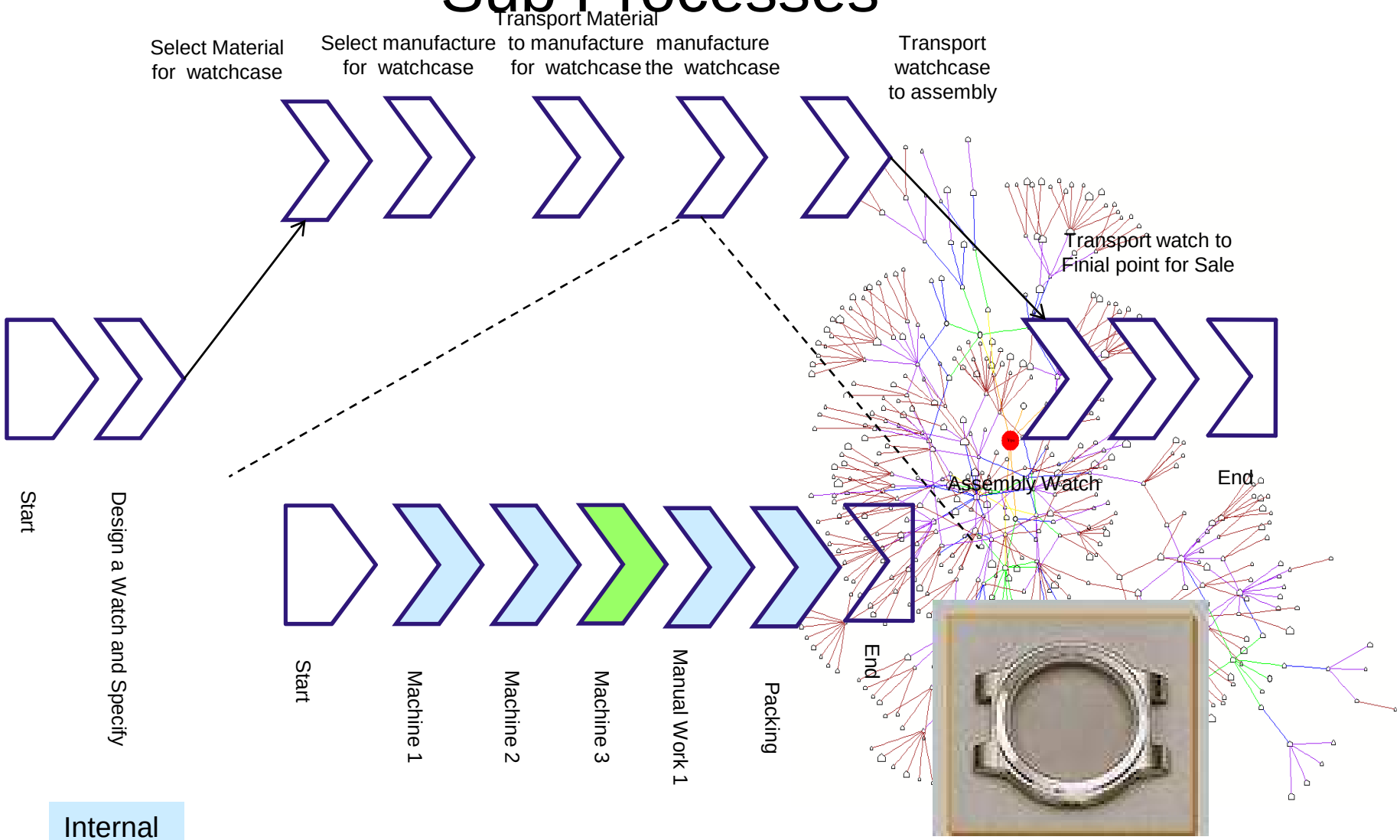
Step5
Mr. Dior offer his vase in the network as a product for sale.



Sample3-1 : Your Privat Factory/ Build a watch



Sample3-2 : Your Privat Factory/ Build a watch Sub Processes



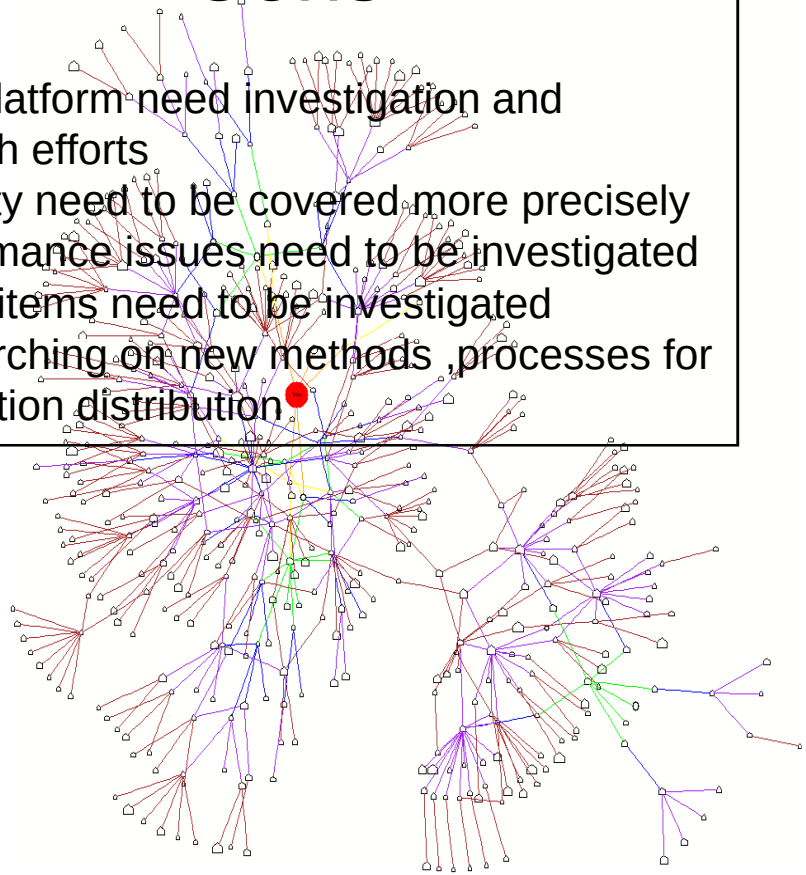
Pro-and Cons for HC-BP

Pro

- Covered all requested requirements
  - Standard Interface
  - Manage value chain
  - Collaboration platform (e.g. Chat)
- Offers full flexibility
- Offer scalability
- Offer techniques which are proven in the market (Naspter, Fasttrack)
- Can be extended with RFID tracking functions

Cons

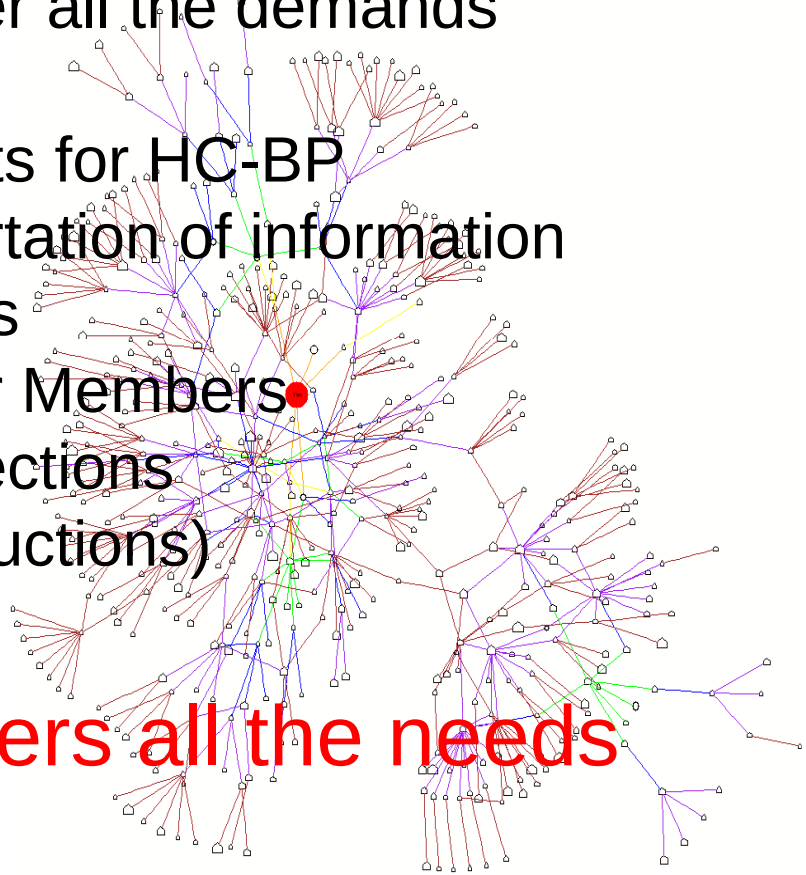
- New Platform need investigation and research efforts
- Security need to be covered more precisely
- Performance issues need to be investigated
- Legal items need to be investigated
- Researching on new methods ,processes for information distribution



The Challenge - Protocol

Which protocol is need to cover all the demands

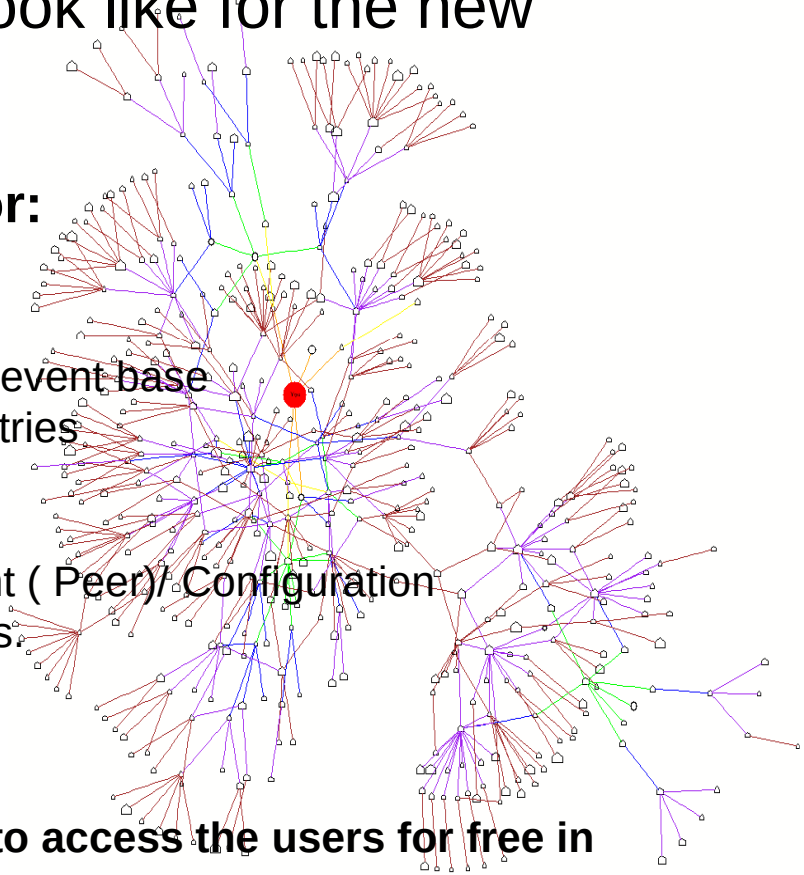
Support the Requirements for HC-BP
The communication and transportation of information
Security Items
Identification of User or Members
Support Error corrections
and Performance (auctions)



Developing a protocol covers all the needs of HC-BP

The Business model

How does the business model look like for the new platform



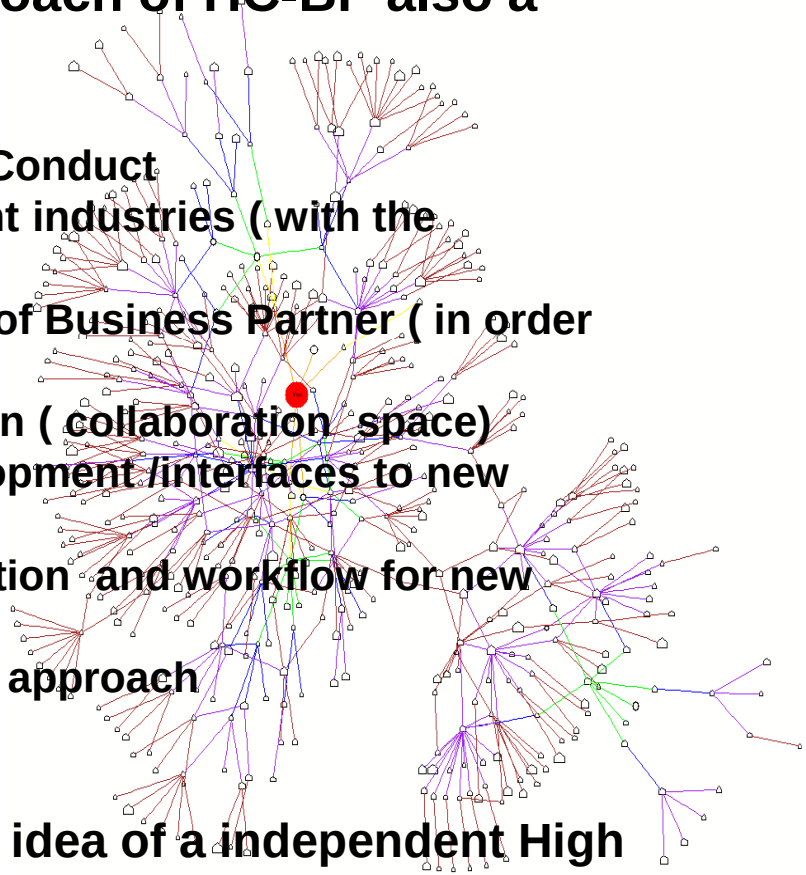
•Customer can be billed and charged for:

- •Accessing the system , on monthly base
- •Successful Transaction within the network , on event base
- •Income through commercial for selected industries
- •Service / Consulting
  - • Support for workflows
  - • Support for IT Environment in each Client (Peer)/ Configuration
  - • Support in Integration with other Systems.
  - • Offering standard Workflows

Recommendation : It is recommend in the begin to access the users for free in order to see the advantage.

Recommendation

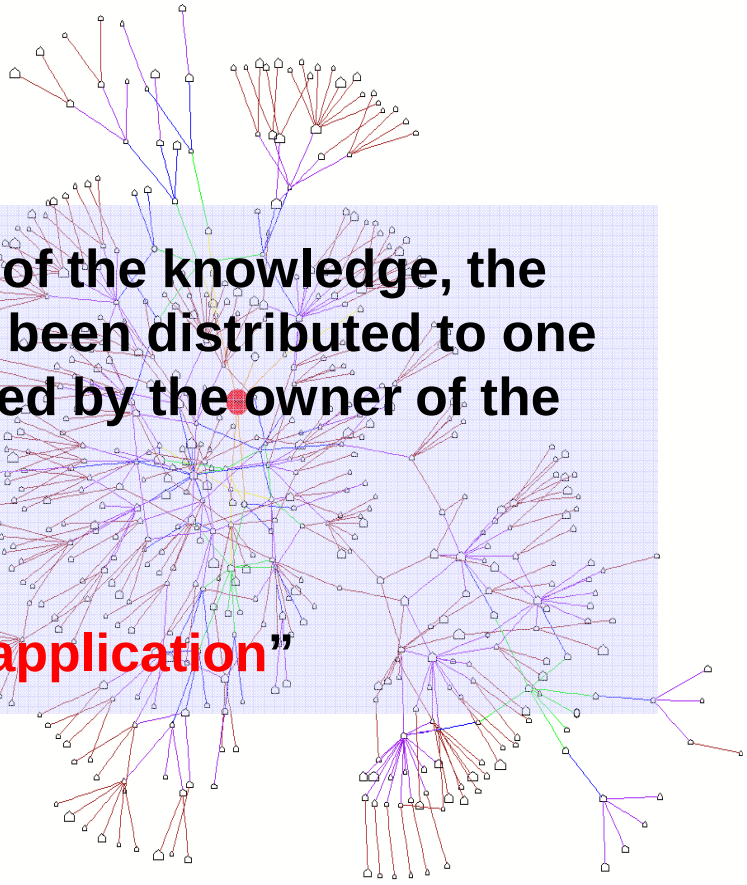
In order to have a success for this approach of HC-BP also a organization/framework is need:



- **Developing ethic recommendation e.g .Code of Conduct**
- **Developing the needed attributes for the different industries (with the companies)**
- **Developing Framework for new market entries of Business Partner (in order to enter easy the market)**
- **Developing standard in Business Communication (collaboration space)**
- **Developing recommendation for software development /interfaces to new market demands and new market process**
- **Developing standard Business process description and workflow for new market entrance**
- **Support Companies in generating new business approach**

The aim is that the organization is carry the idea of a independent High Communication Business Platform.

What is HC-BP doing

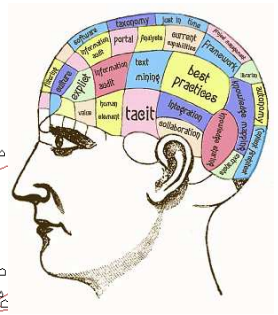


By putting the workflow into the center of the knowledge, the assembly and the production of goods is been distributed to one or more members in the network, selected by the owner of the workflow.

This means
“knowledge is the key in the application”

What is the core of HC-BP

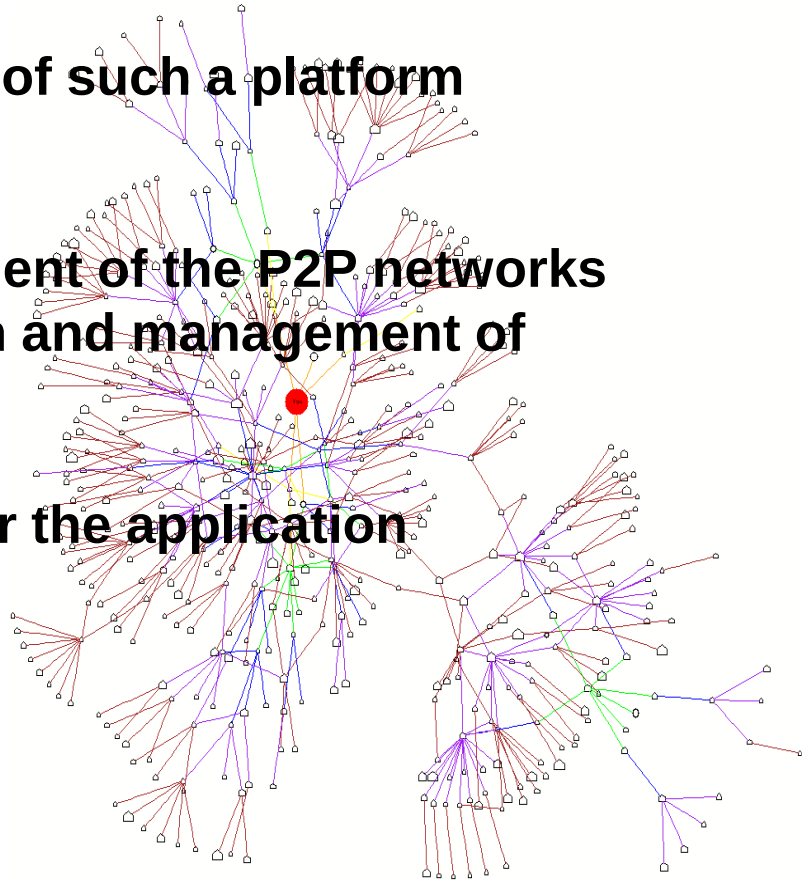
1.
Knowledge is the KEY of Success



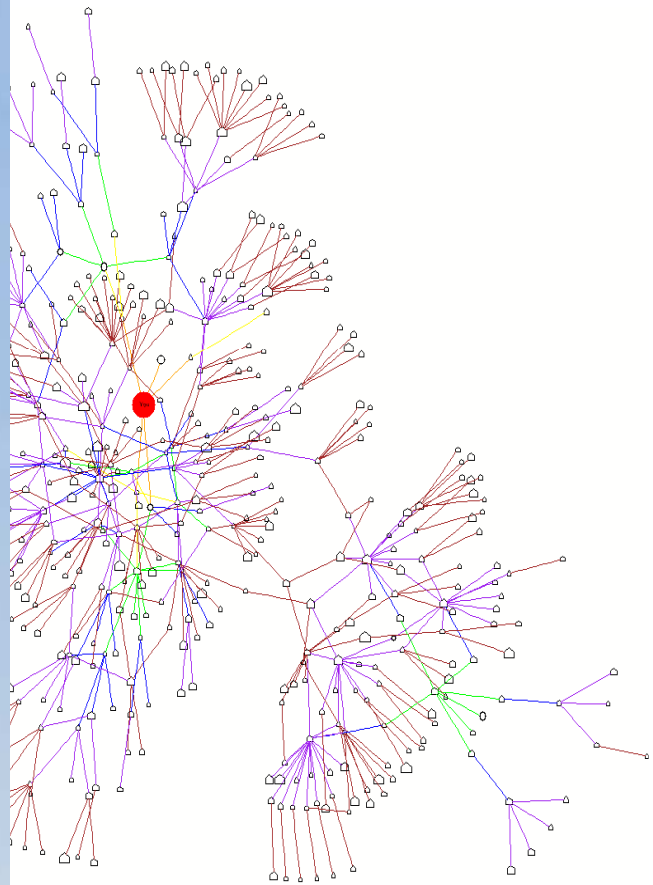
2.
We are building a e-Factory

Next Steps

- **Defining High Level Requirements and Use Cases**
- **Study on Legal and Business Aspects of such a platform**
  - **diploma thesis**
- **Study on technical, level the management of the P2P networks**
  - **New methods (search, distribution and management of information)**
- **Setting a Trial for a Prof of Concept for the application**
  - **Setting up a test environment**



Questions?



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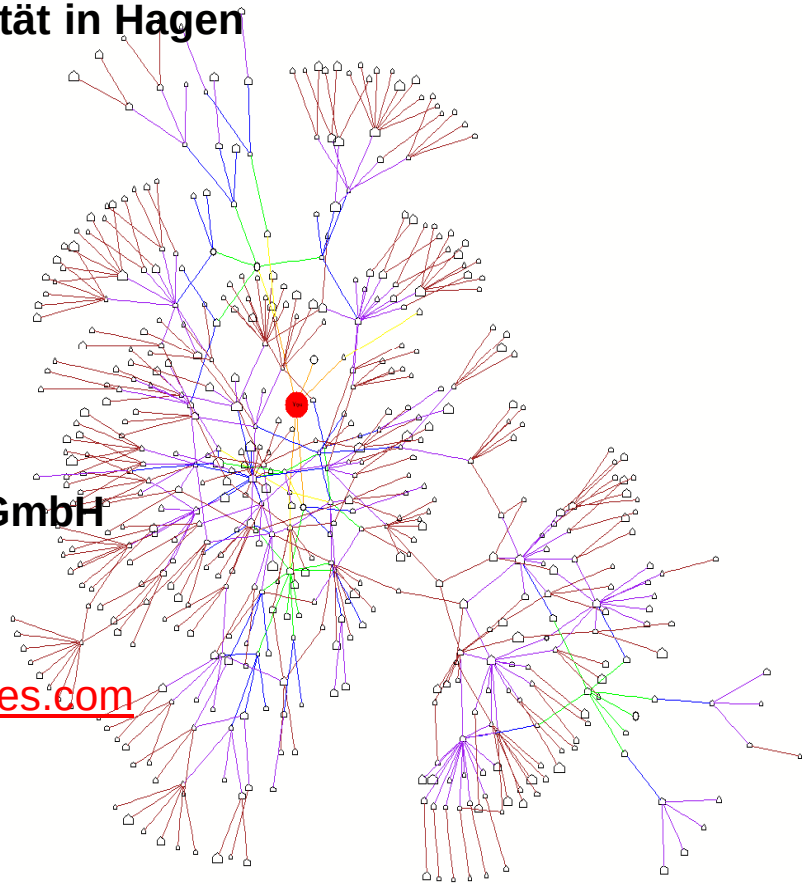
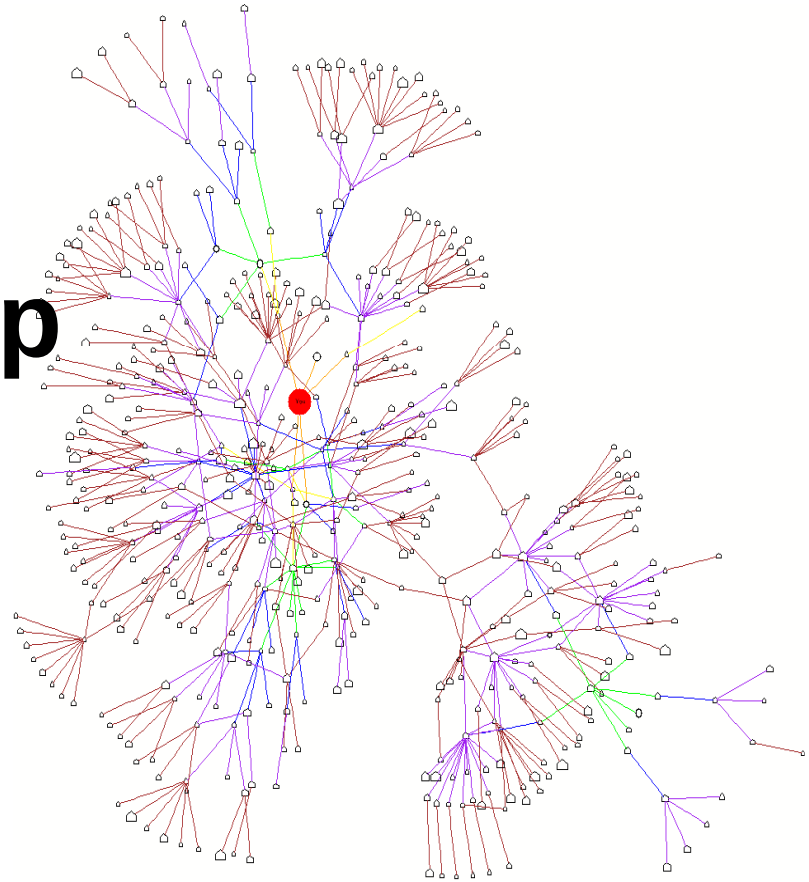



THANK YOU

Backup



Title and Abstract

Title

„Analysis of the P2P paradigms in an application of workflow management systems in business processes”

Abstract

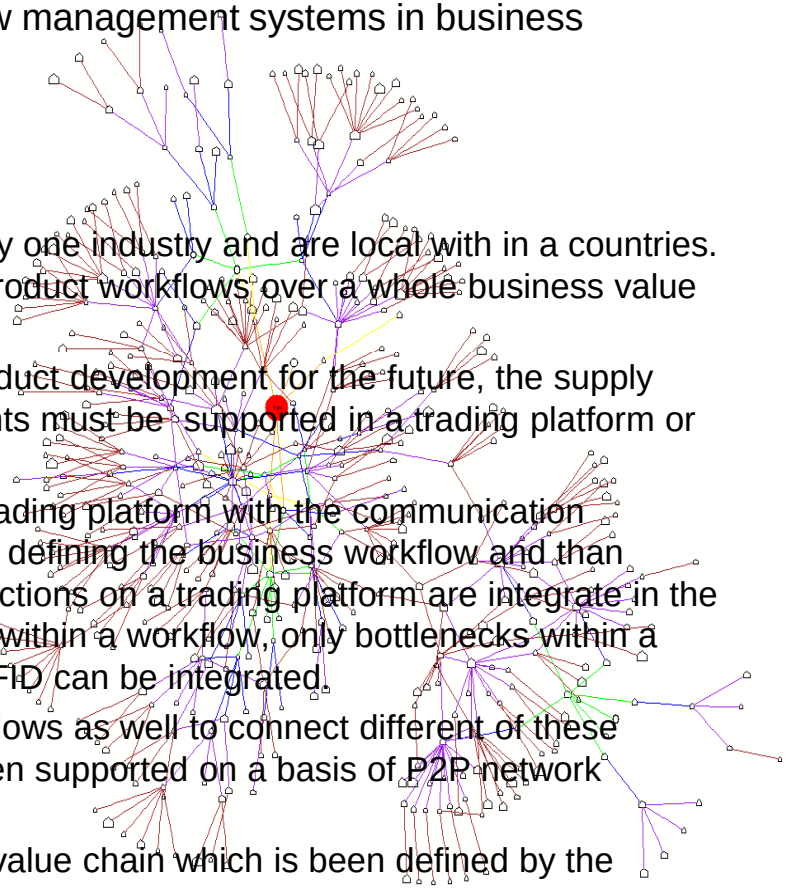
Today’s business and dealing/trading platforms are limited to only one industry and are local with in a countries. These business transactions platforms are also do not support product workflows over a whole business value chain.

In order to interact and to fulfill the demands for a successful product development for the future, the supply chain must be transferred into a workflow solution and all elements must be supported in a trading platform or connected to different trading platforms.

This paper describes the concept of a integrated workflow and trading platform with the communication demands based on a P2P network infrastructure. The process of defining the business workflow and than managing all procurement (for products and services) and sale actions on a trading platform are integrate in the whole business value chain. By defining and using only sections within a workflow, only bottlenecks within a company organization can also be solved, as well tracking via RFID can be integrated.

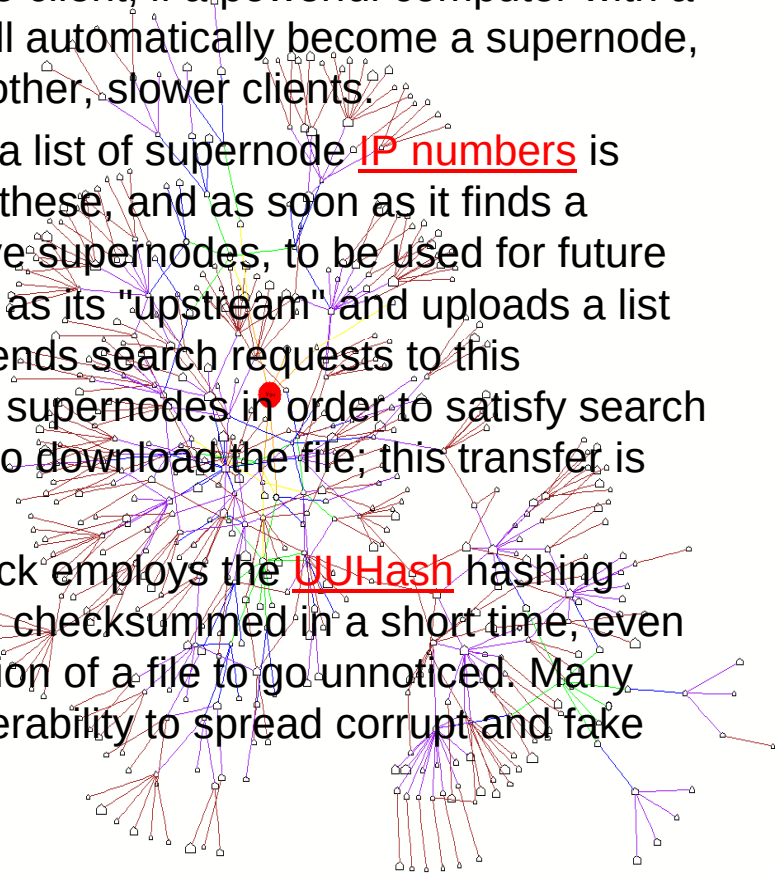
The structure of an integrated workflow with a trading platform allows as well to connect different of these platforms to a virtual international business network, which is been supported on a basis of P2P network infrastructure.

The concept for this solution allows a new view on the business value chain which is been defined by the workflow and divided into procurement, assembly and sales steps, integrated in a network of business partners (sellers and buyers).



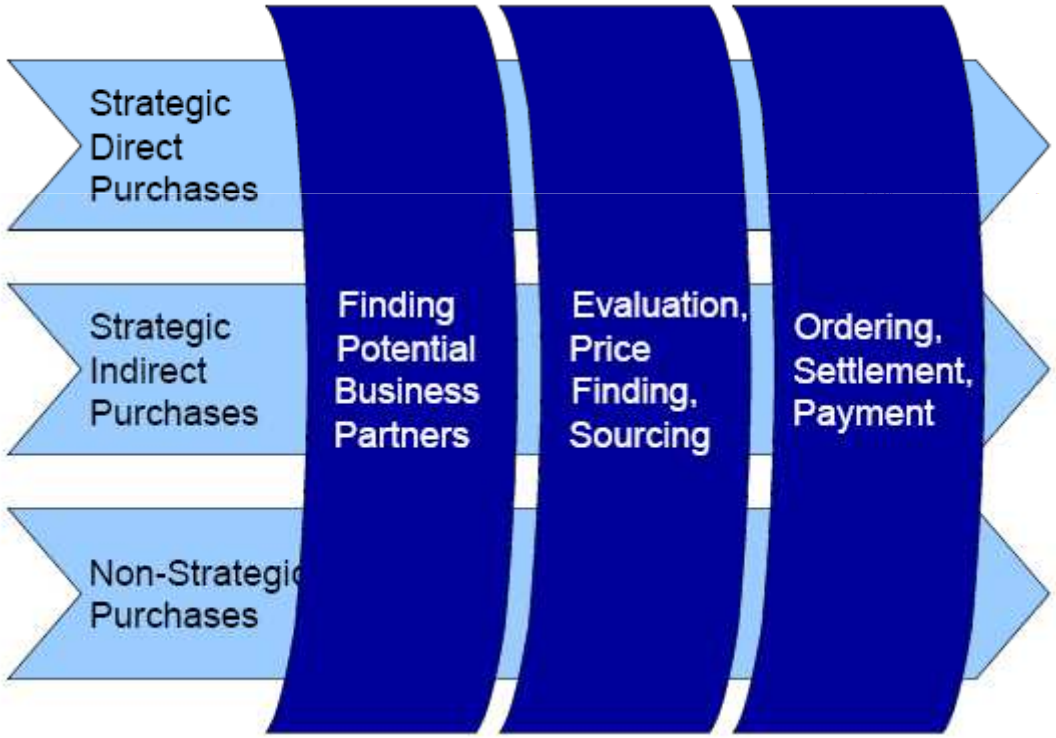
Fasttrack Technology

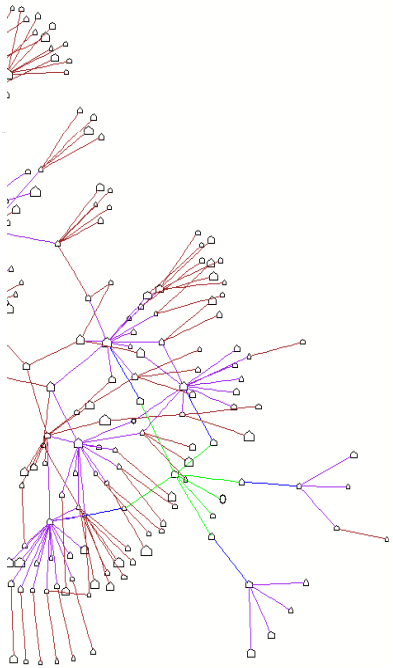
- FastTrack is a so-called second generation P2P protocol. It uses supernodes to improve scalability. The supernode functionality is built into the client; if a powerful computer with a fast network connection runs the client software, it will automatically become a supernode, effectively acting as a temporary indexing server for other, slower clients.
- In order to be able to initially connect to the network, a list of supernode IP numbers is stored in the program. The client attempts to contact these, and as soon as it finds a working supernode, it requests a list of currently active supernodes, to be used for future connection attempts. The client picks one supernode as its "upstream" and uploads a list of files it intends to share to that supernode. It also sends search requests to this supernode. The supernode communicates with other supernodes in order to satisfy search requests. The client then connects directly to a peer to download the file; this transfer is done using HTTP.
- To allow downloading from multiple sources, FastTrack employs the UUHash hashing algorithm. While UUHash allows very large files to be checksummed in a short time, even on slow computers, it also allows for massive corruption of a file to go unnoticed. Many people, as well as the RIAA, have exploited this vulnerability to spread corrupt and fake files on the network.



Market Trends-2

Procurement processes in enterprises





Source : Enterprise Directorate General B2B group Meeting, Brussels 10 May 2006

Market Trends-3

28.08.2007: Unternehmen investieren verstärkt in eBusiness

Gestern wurde in Berlin das "eBusiness-Barometer 2007/2008" im Rahmen einer Pressekonferenz der Öffentlichkeit vorgestellt. eBusiness wird in diesem Zusammenhang als Nutzung vernetzter Informations- und Kommunikationstechnologien (ITK) zur Unterstützung und Optimierung inner- und zwischenbetrieblicher sowie kundenbezogener Geschäftsprozesse verstanden.

Jedes dritte Unternehmen investiert in diesem Jahr mehr in eBusiness

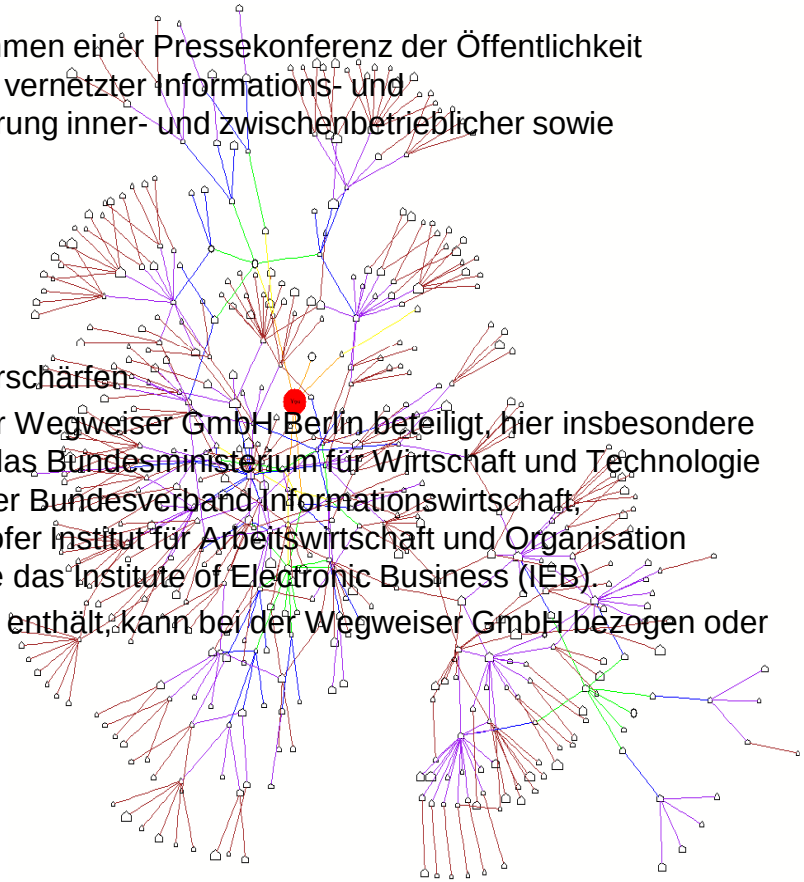
Ein Drittel der Unternehmen stellt zusätzliche IT-Mitarbeiter ein

Mangel an eBusiness-Experten in Anwenderbranchen droht sich zu verschärfen

Auch das Projekt PROZEUS war an der Entstehung der Studie von der Wegweiser GmbH Berlin beteiligt, hier insbesondere auf dem Sektor der eBusiness-Standards. Weitere Partner waren das Bundesministerium für Wirtschaft und Technologie (BMWi), der Bundesverband der Deutschen Industrie e.V. (BDI), der Bundesverband Informationswirtschaft, Telekommunikation und neue Medien e.V. (BITKOM), das Fraunhofer Institut für Arbeitswirtschaft und Organisation (IAO), das Netzwerk Elektronischer Geschäftsverkehr (NEG) sowie das Institute of Electronic Business (IEB).

Das "eBusiness-Jahrbuch 2007/2008", welches die vollständige Studie enthält, kann bei der Wegweiser GmbH bezogen oder im Internet kostenlos heruntergeladen werden.

http://www.prozeus.de/prozeus/aktuelles/nachrichten/index.htm#2



Source : Enterprise Directorate General B2B group Meeting, Brussels 10 May 2006