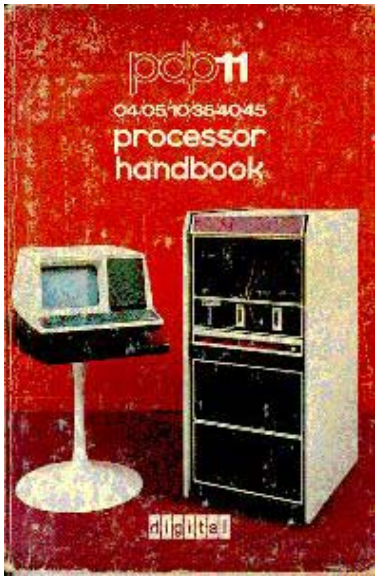
CO@Work 2015
Data Experiment

Thorsten Koch

1970

“Fast algorithms – fast computers“

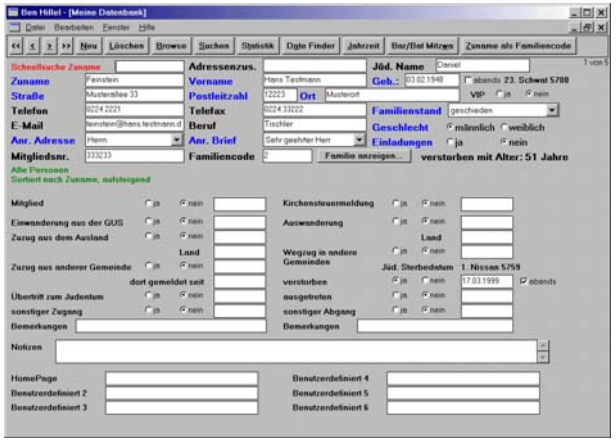
Hardware/Software: What are we able to compute?

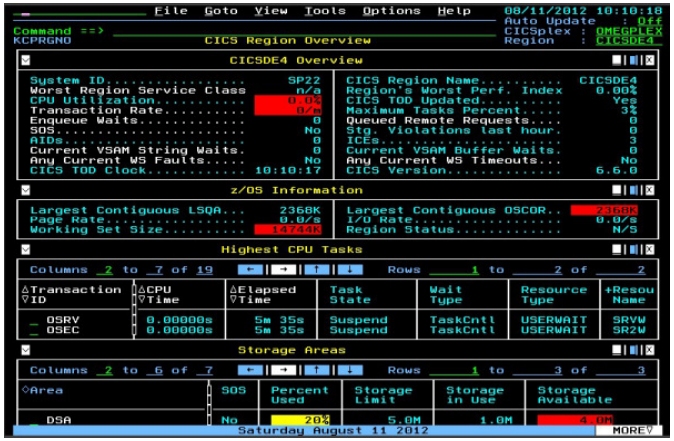


1990

“Once the data has been input, you will get the result”

How to get the data into the computer?

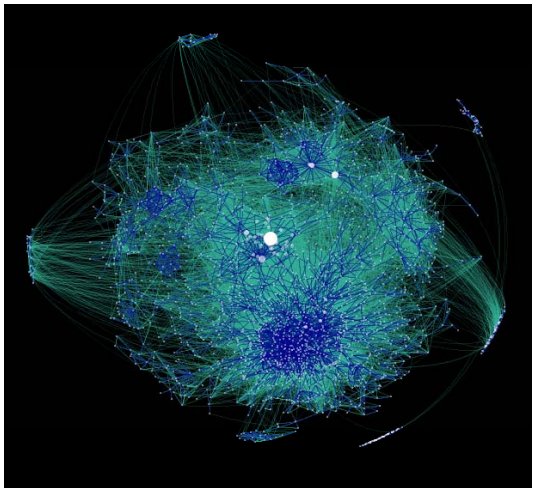


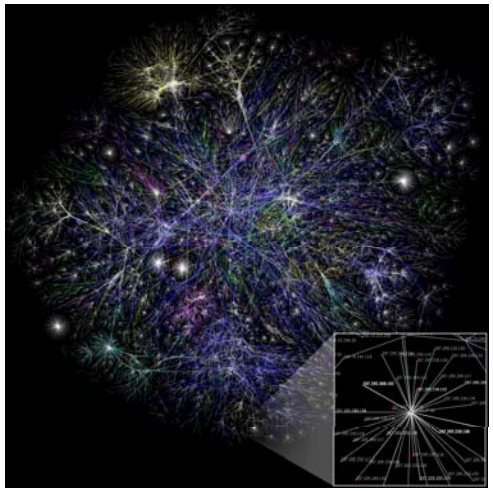


2010

“Computer-assisted information processing is ubiquitous”

How to find answers to complex questions?





Data

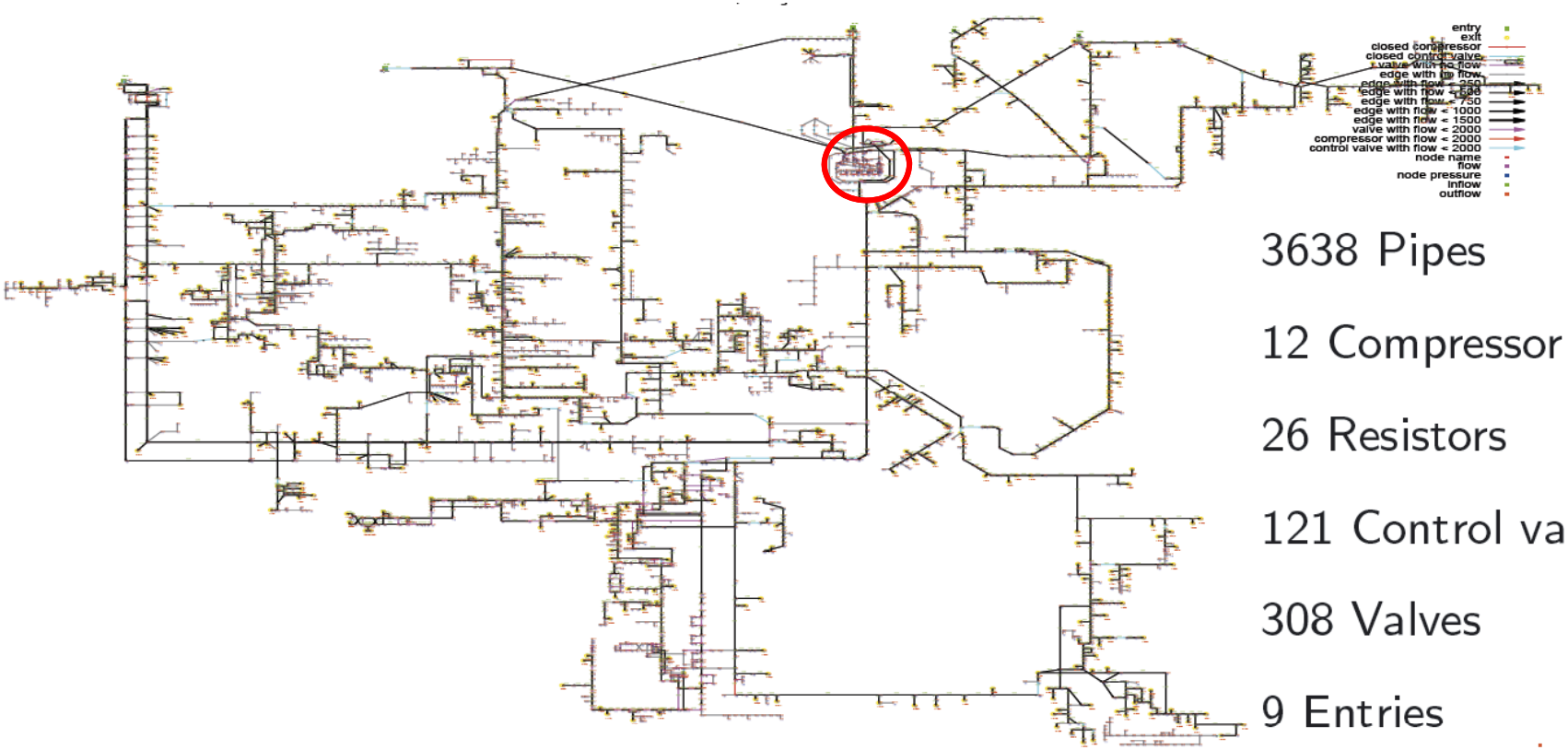
- You will hear a lot about industrial projects in the next 2 weeks.
- And the bigger a project gets the more data it will need.
- Can we assume all data necessary is available?

We might ask

- a cell-phone company where the base stations are located.
- a phone network operator where its connections are.
- a gas transport system operator the position of its pipelines.
- …

And it is more than you might think:


Asgard
Heidrun
Statfjord
Gullfaks
Brent
Troll
Ekofisk
Heimdal
Sleipner
Balder
Draugner
Oslo
Stockholm
Nynashamn
St. Petersburg
Helsinki
Tallinn
Moscow
Riga
Vilnius
Minsk
Tyra
Elgar
Teesside
Dublin
Morecambe
Copenhagen
Swinoujscie
Milford Haven
Bacton
Gate
Zeebrugge
London
Isle of Grain
Dunkerque
Essen
Berlin
Warsawa
Kiev
Antifer
Brussels
Paris
Prague
Montoir
Munich
Vienna
Bratislava
Budapest
Chisinau
Bern
Feirol
Gijon
Bilbao
Milan
Ljubljana
Zagreb
Zaule
Rovigo
Krk
Bucharest
Tiflis
Monaco
La Spezia
Livorno
Sarajevo
Belgrade
Fos Faster
Fos Tonkin
Fos Cavaou
Podgorica
Sofia
Istanbul
Madrid
Barcelona
Rome
Skopje
Tirana
Marmara Ereglisi
Ankara
Lisbon
Sines
Sagunto
Mallorca
Ibiza
Huelva
Cartagena
Izmir
Kilis
Aleppo
Algiers
Athens
Revithoussa
Tunis
Porto Empedocle
Nicosia
Homs
Rabat
Valletta
Beirut
Damascus
Tel Aviv
Amman
Tripoli



3638 Pipes

12 Compressor stations

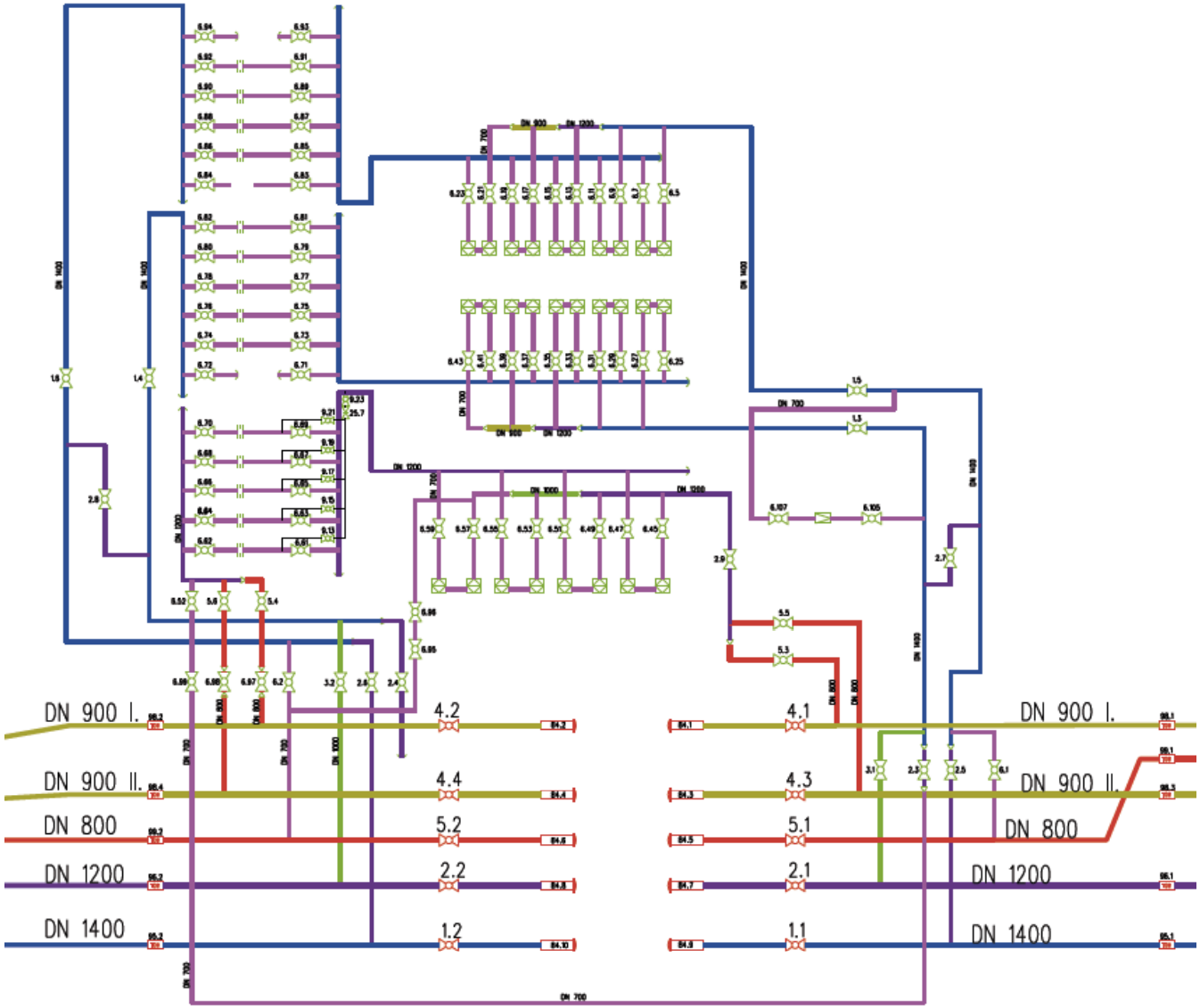
26 Resistors

121 Control valves

308 Valves

9 Entries

860 Exits


DN 900 I.
DN 900 II.
DN 800
DN 1200
DN 1400
4.2
4.4
5.2
2.2
1.2
4.1
4.3
5.1
2.1
1.1
DN 900 I.
DN 900 II.
DN 800
DN 1200
DN 1400

Let us try

a little experiment

Aim and objective

- One goal of this WS is to foster collaboration. There is a famous (and very remotely located) WS location called „Oberwolfach“ in Germany and there people are placed in different combinations each time for lunch and dinner.
- We are too many for this, therefore we have to optimized our combinations such that participants who “fit” sit next to each other.
- Also we do not have a lunch room. But we are doing exercises in groups of three. So we will assigned these groups in order to maximize meeting new colleagues.
- The objective will be that everybody gets exposed to a maximum number of fitting people living as far away as possible.

Data needed

We need everybody of you to provide the following information:

- A list with the name of every participant, his/her country of origin, an indication how related their scientific topic of interest is to yours, and an indication who much you think it is desirable to work with them.
- Lastname; Firstname; CountryCode; ScienceIndicator; PreferenceIndicator
- CountryCode is given as the two letter internet country code
- Science indicator is 0 to 9, with 9 meaning you are working on the same subject, 1 meaning you are working on a completely different subject, 0 meaning you have no clue what the other person is doing.
- Preference indicator is 0 to 9, 9 meaning you would spend a beer to work with this person, 0 meaning you need a beer to work with that person.

Your data

First line for the data you send is **your**

Lastname;Firstname;Email-address;CountryCode; LaptopIndicator; Male/Female; SeatNo

- LaptopIndicator is 0 or 1. 1 if you have a Laptop here.
- Male/Female is M/F, M if …
- SeatNo is your preferred place to sit in this lecture hall numbered 1…n. Seat numbers start down at the low entrance, left to right, row by row. Seat 1 is the seat nearest to the entrance in the most downstairs row that has completely tables. The highest numbered seat is at the window side at the top.

The data we are talking about

is certainly available within this room

File Format

- ASCII text with only a LF (ASCII 10) as line separator.
- Fields are separated by a single semicolon **;** (ASCII 59)

- Line 1: YourLastName;YourFirstName;Email-Address;CountryCode;LaptopIndicator;SeatNo

  e.g. **Koch;Thorsten;koch@zib.de;DE;1;35**

  0 = has no Laptop, 1 = has a Laptop

- Lines 2-???: Lastname; Firstname; CountryCode; ScienceIndicator; PreferenceIndicator

  e.g. **Newton;Isaac;GB;5;7**

  Euler;Leonhard;CH;8;9

  Krüger;Freddy;US;0;0

  …

How to submit

- Submission of this file is required for the course
- The name of the file has to be *LastnameFirstname*.**txt**
- It should be **attached** to an email
- Send the email to koch@zib.de
- The subject of the email should be
  CO@Work: Data for *LastnameFirstname*
- *Please, as soon as possible.*