Full Cost Model:
A Blessing or a Curse?

Cees de Laat

EU

SURFnet

SURF-eScience

NWO

University of Amsterdam

TNO

NCF

Why me here?

- In the last 9 year ran/running 25 projects
- Total subsidy 9.8 MEuro
- Always received positive audits
- Invented timesheets that record matching
- Was “testcees” during kpmg trouble

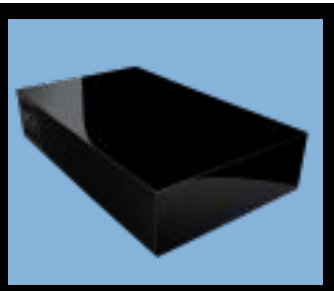
History

- Was AC in EU projects
- Roughly marginal costs to others
- Full Cost was introduced to us as:
  - We can increase tariffs, yeah!
  - 75% of 180% is more than 120%
  - For the poor calculators in the audience → 135%
  - More money flowing in UvA -> Win-Win!

Result

- External costs have exploded!
- Internal budget is full cost charged!
- This only works at the bottom of the food-chain if compensated
  - > matching & “prestatie beloning”

Intermezzo ☺



- “Tevens wordt medegedeeld dat het IC werkt aan onderzoeksstorage tbv O&O. De kosten zullen rond de € 1000 /Tb/j liggen. “
- translation: Additional announcement: the IC department is deploying a storage facility for research and education. The costs will be approximately € 1000 /Tb/y
- P.s. Price already lowered from initial € 29000.....
- → in Mediamarkt 2 Tbyte costs 100 Euro!

(p.s. They may have made a mistake in units: € 1000 /TB/y !)

External issues

- We are now in the top of most expensive Universities!
- We are avoided as being too expensive!
- In negotiations typically money is equalized!
  - > less MM
  - > less responsibilities
  - > less possibilities to realize ambitions & visions
- Procedures take ages in UvA -> irritates consortia.

Internal Issues

- Cost calculations while not yet known what actual personnel will work on the project (if approved)
- Approval to submit difficult to get due to vague calculations
- Money flow compensation is totally unclear
- Difficult to start project as wbs-number comes after contract
  - > Only then can one advertise for people
  - > do not assume work in the first few months
- Time writing -> our own system
  - Section to earn salary (1680 h)
  - Section where time can be used for matching

TimeSheet

Paid hours

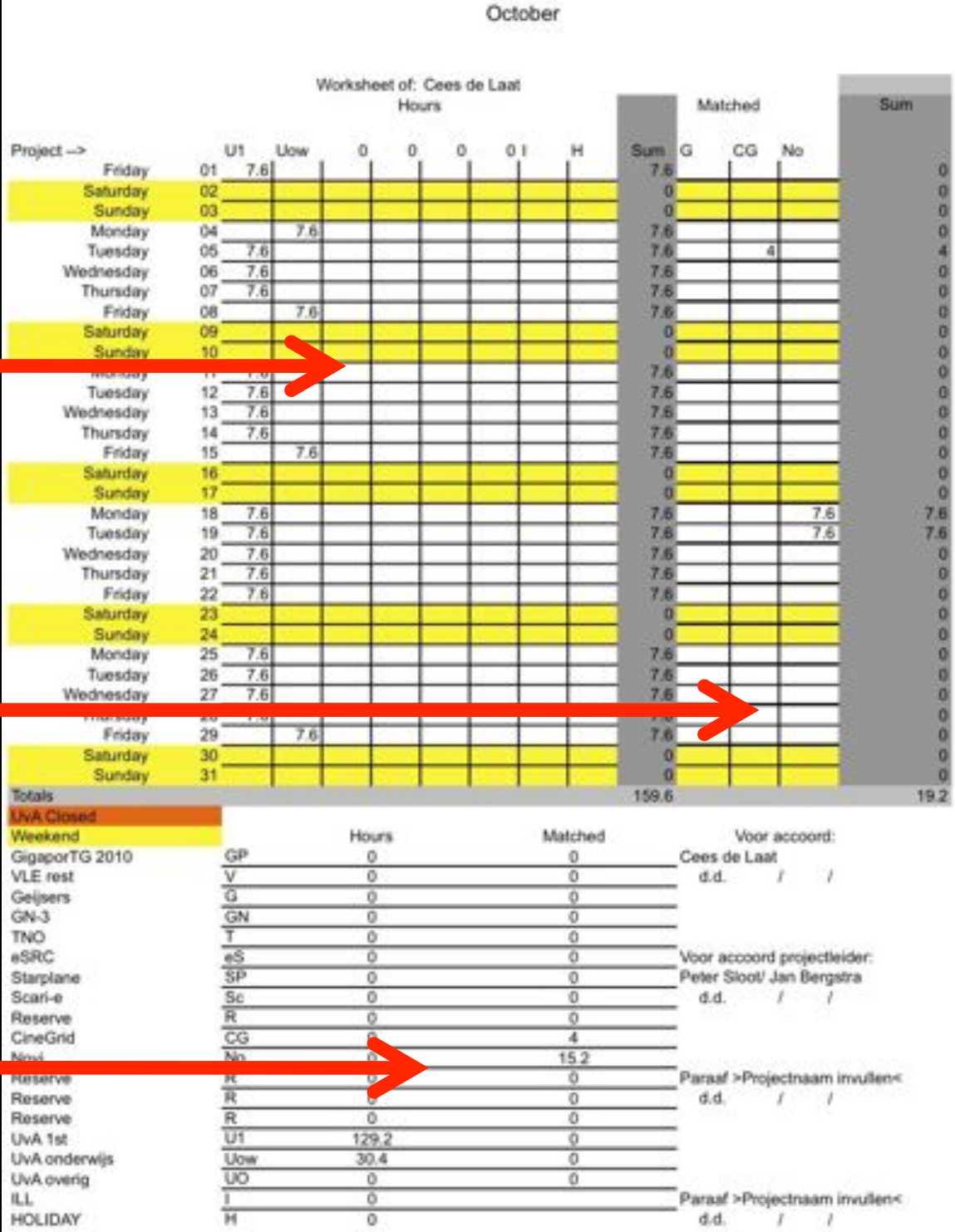
- Add up to 1680h

Matching

- Applicable hours
- Obey rules

Sums

- Also summary sheets



October

Worksheet of: Cees de Laat

Project -->		U1	Uow	0	0	0	0 I	H	Hours Sum	Matched G	Matched CG	Matched No	Sum
Friday	01	7.6							7.6				0
Saturday	02								0				0
Sunday	03								0				0
Monday	04		7.6						7.6				0
Tuesday	05	7.6							7.6		4		4
Wednesday	06	7.6							7.6				0
Thursday	07	7.6							7.6				0
Friday	08		7.6						7.6				0
Saturday	09								0				0
Sunday	10								0				0
									7.6				0
Tuesday	12	7.6							7.6				0
Wednesday	13	7.6							7.6				0
Thursday	14	7.6							7.6				0
Friday	15		7.6						7.6				0
Saturday	16								0				0
Sunday	17								0				0
Monday	18	7.6							7.6			7.6	7.6
Tuesday	19	7.6							7.6			7.6	7.6
Wednesday	20	7.6							7.6				0
Thursday	21	7.6							7.6				0
Friday	22	7.6							7.6				0
Saturday	23								0				0
Sunday	24								0				0
Monday	25	7.6							7.6				0
Tuesday	26	7.6							7.6				0
Wednesday	27	7.6							7.6				0
													0
Friday	29		7.6						7.6				0
Saturday	30								0				0
Sunday	31								0				0
Totals									159.6				19.2

UvA Closed
Weekend

		Hours	Matched
GigaportTG 2010	GP	0	0
VLE rest	V	0	0
Geijsers	G	0	0
GN-3	GN	0	0
TNO	T	0	0
eSRC	eS	0	0
Starplane	SP	0	0
Scari-e	Sc	0	0
Reserve	R	0	0
CineGrid	CG	0	4
Nlgrid	No	0	15.2
Reserve	R	0	0
Reserve	R	0	0
Reserve	R	0	0
UvA 1st	U1	129.2	0
UvA onderwijs	Uow	30.4	0
UvA overig	UO	0	0
ILL	I	0	
HOLIDAY	H	0	

Voor accoord:
Cees de Laat
d.d. / /

Voor accoord projectleider:
Peter Sloot/ Jan Bergstra
d.d. / /

Paraaf >Projectnaam invullen<
d.d. / /

Paraaf >Projectnaam invullen<
d.d. / /

Internal Issues - 2

- Rigid system, little room for error:
  - every month in stone
  - 1680 is total year
- During running projects system changed
  - > years of unclear budgeting!
- No easy overview status project
- No easy possibility for dead reckoning
  - > under or overspending
- 4 year AIO on 3 year EU project?
  - How to do science in 15 easy steps for dummies

Internal Issues - 3

- No overview whether money is really coming in!
- No or double payments... (oke, off-track)
- In between projects hiring bridging of people
  - > full cost?
  - > No matching?
- 3e moneystream -> no matching?
  - Is FES 3e ms?
- Matching by 1e moneystream?
  - If I want a pd for 36 MM, should I ask 45 MM?

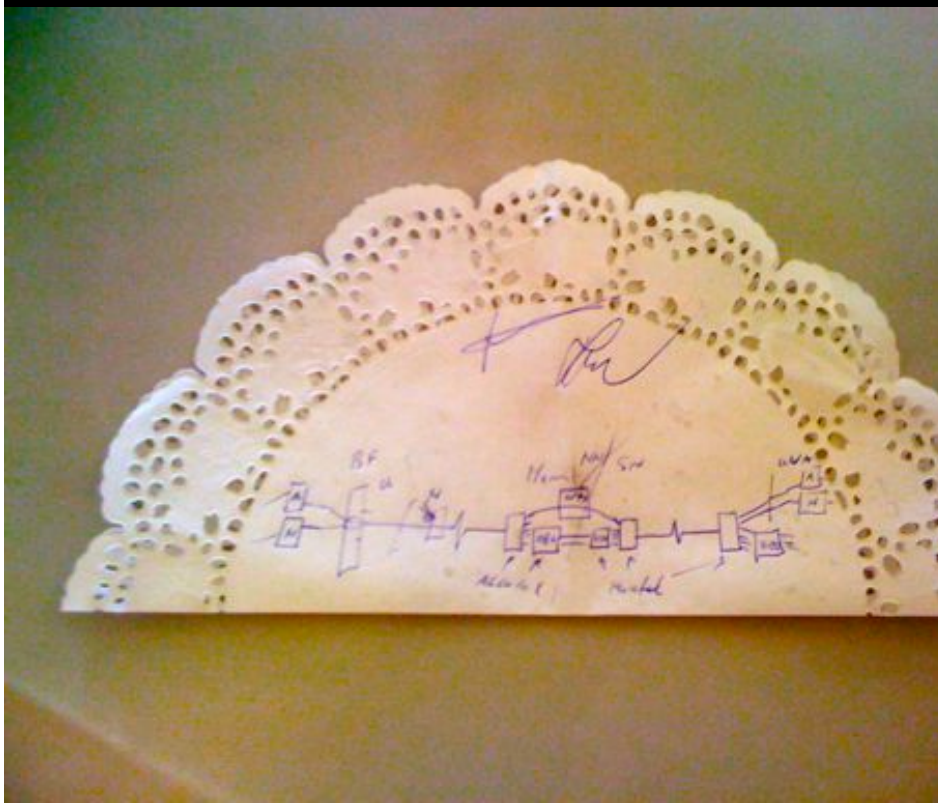
Result

1. Matching problems de-motivate researchers
2. High cost makes us unpopular in EU
3. I do not find myself responsible for cashing
4. The tight system makes it difficult to bridge between projects or to start on day 1
5. Seems we can only lose money, not have free left over budget, so we optimize losing money!
6. Full cost an sich is fine...

Closing Remark

- Given the explosion of overhead costs I can not resist to remark that we have to do more and more of the bureaucracy ourselves!
  - "zelfbediening"
  - Timesheets
  - Travel cost input in the sap system
  - Etc. etc. etc.

Alien light From idea to realisation!



40Gb/s alien wavelength transmission via a multi-vendor 10Gb/s DWDM infrastructure

NCF

Alien wavelength advantages

- Direct connection of customer equipment[1] → cost savings
- Avoid OEO regeneration → power savings
- Faster time to service[2] → time savings
- Support of different modulation formats[3] → extend network lifetime

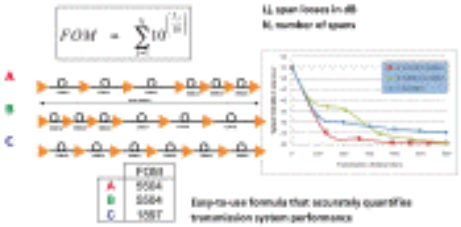
Alien wavelength challenges

- Complex end-to-end optical path engineering in terms of linear (i.e. OSNR, dispersion) and non-linear (FWM, SPM, XPM, Raman) transmission effects for different modulation formats.
- Complex interoperability testing.
- End-to-end monitoring, fault isolation and resolution.
- End-to-end service activation.

In this demonstration we will investigate the performance of a 40Gb/s PM-QPSK alien wavelength installed on a 10Gb/s DWDM infrastructure.

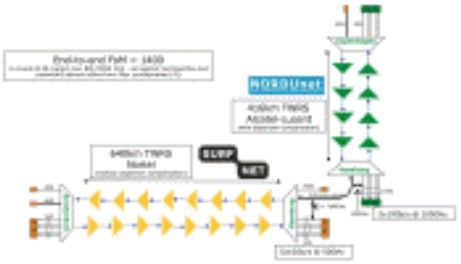
New method to present fiber link quality, FoM (Figure of Merit)

In order to quantify optical link grade, we propose a new method of representing system quality: the FOM (Figure of Merit) for concatenated fiber spans.



Transmission system setup

JOINT SURFnet/NORDUnet 40Gb/s PM-QPSK alien wavelength DEMONSTRATION.



Test results

Error-free transmission for 23 hours, 17 minutes → BER < 3.0 10^-15

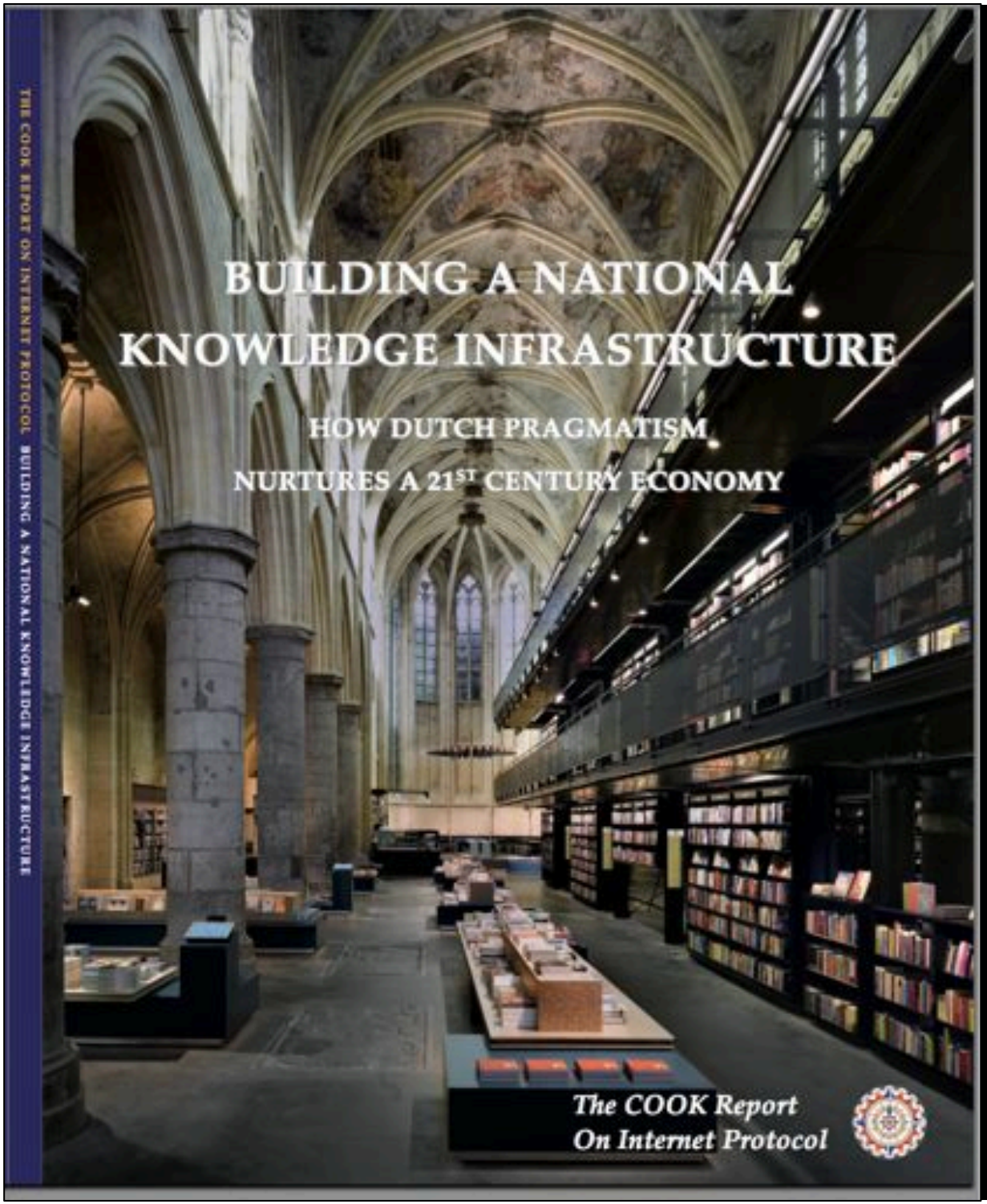
Conclusions

- We have investigated experimentally the all-optical transmission of a 40Gb/s PM-QPSK alien wavelength via a concatenated native and third party DWDM system that both were carrying live 10Gb/s wavelengths.
- The end-to-end transmission system consisted of 1056 km of TWRS (TrueWave Reduced Slope) transmission fiber.
- We demonstrated error-free transmission (i.e. BER below 10-15) during a 23 hour period.
- More detailed system performance analysis will be presented in an upcoming paper.

NORTEL NORDUnet SURF NET

REFERENCES

ACKNOWLEDGEMENTS



Questions ?

CookReport
feb 2009 and feb-mar 2010

november '08
interview with
Kees Neggers (SURFnet),
Cees de Laat (UvA)

and furthermore
on november '09

Wim Liebrandt (SURF),
Bob Hertzberger (UvA) and
Hans Dijkman (UvA)

BSIK projects
GigaPort &
VL-e / e-Science

SURFNET

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