

Universities of Helsinki and Petrozavodsk Ten Years of Cooperation in Computer Science

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1993 — The beginning

- Visit of Dr. Yury Bogoyavlenskiy to Helsinki
- Visit of Dr. Timo Alanko to Petrozavodsk with elective course “Performance Analysis”
- Arising of the idea of “Annual Finnish Data Processing Week at the Petrozavodsk State University” by 4 persons including former Vice-rector Andrei Pechnikov and Head of the local CS Department Gennady Sigovtsev

1994 — 1996 The Week of Invited Lecturers

- Visitors to Petrozavodsk: Timo Alanko, Harri Laine, Helena Ahonen, Vesa Halkka, Markku Kojo
- Courses:
 - Knowledge Bases
 - Computing Facilities of the University of Helsinki
 - Performance Analysis
 - Modern DBMS
 - Network Performance Analysis
 - Client-Server Programming in Unix

1994 – 1996 The Week of Invited Lecturers

- Visitors to Helsinki:
- Researchers:
 - Andrei Pechnikov
 - Gennady Sigovtsev
 - Yury Bogoyavlenskiy

1994 – 1996 The Week of Invited Lecturers

- Visitors to Helsinki:
- Students studying networking courses:
 - Vadim Ponomarev
 - Oleg Shukin
 - Andrei Gurtov
 - Dmitry Korzun
- Postgraduates Students
 - Olga Bogoiavlenskaia
 - Dmitry Korzun

1994 – 1996 The Week of Invited Lecturers

Beginning of the Pilot Joint Research Project

**Performance Analysis and Capacity Planning
of a Local Internet Service Provider**

Contributors:

Timo Alanko

Victor Vasiliev

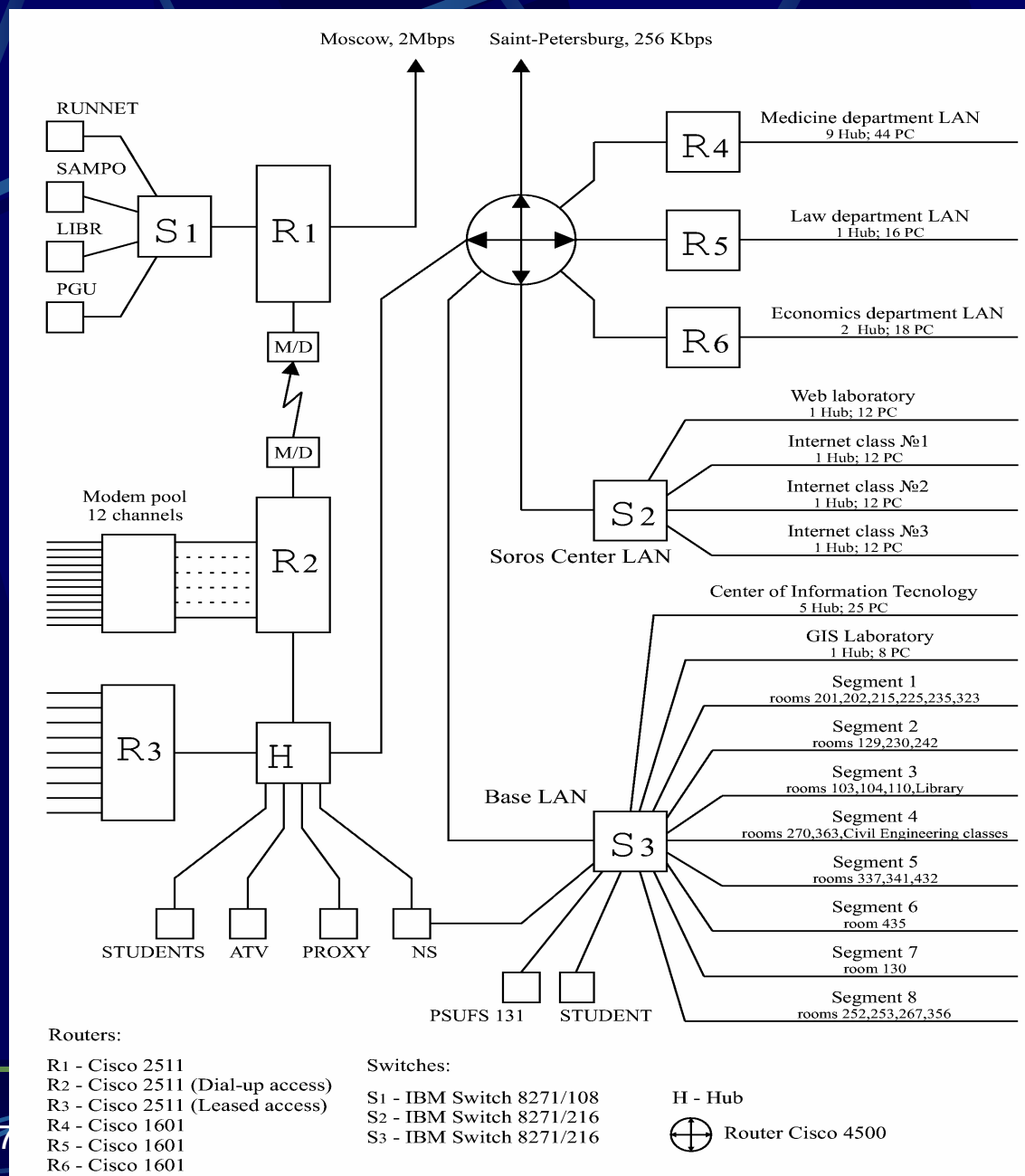
Olga Bogoiavlenskaia

Natalia Ruzanova,

Yury Bogoyavlenskiy

Dmitry Korzun

General scheme of PetrSU Node



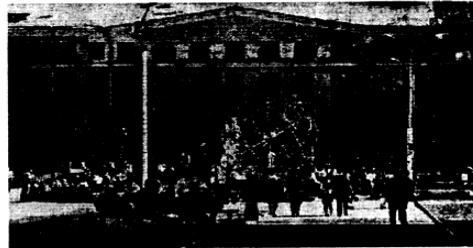
1997 – 2003 The Week of Scientific Seminars

- Six annual seminars have been arranged
- Four volumes of seminars proceedings have been published by PetrSU with financial support of the University of Helsinki
- Several tens of researches have given presentations on the seminars
- Forty five articles have been published in the Proceedings

Cover page of the Proceedings

Том
Nide
Volume

3



Труды НФИ'2000
Новые методы информационных
технологий

STKV'2000
Konferenssijulkaisu
Modernin informaatioteknologian
menetelmätutkimusta

Proceedings of FDPW'2000
Advances in Methods of Modern
Information Technology

Петрозаводск Petroskoi Petrozavodsk
2001

Main results of the Cooperation. 1

- Olga Bogoiavlenskaia has defended Ph.D thesis at 1998 in PetrSU; now she is a leading lecturer and researcher at CS Dept. of the PetrSU
- Vadim Ponomarev works on Ph.D thesis; now he is a leading lecturer and system administrator of the computer system of CS Dept. of the PetrSU

Main results of the Cooperation. 2

- Andrei Gurtov has written Ph.Lic thesis at 2001 in Helsinki; now he is a postgraduate student and a lecturer at CS Dept. of the University of Helsinki and staff member of “Sonera” (Finland). At the moment he is a visiting researcher in USA.
- Dmitry Korzun has defended Ph.D thesis at 2002 in SPb State University; now he is a leading lecturer and researcher at CS Dept. of the PetrSU

Main results of the Cooperation. 3

- Joint pilot research project “Analytical Markovian Model of TCP Congestion Avoidance Algorithm Performance”

Authors: Olga Bogoiavlenskaia,
Markku Kojo, Matt Mutka, Timo
Alanko

<http://www.cs.helsinki.fi/TR/C.html>

Distribution of Congestion Window Size

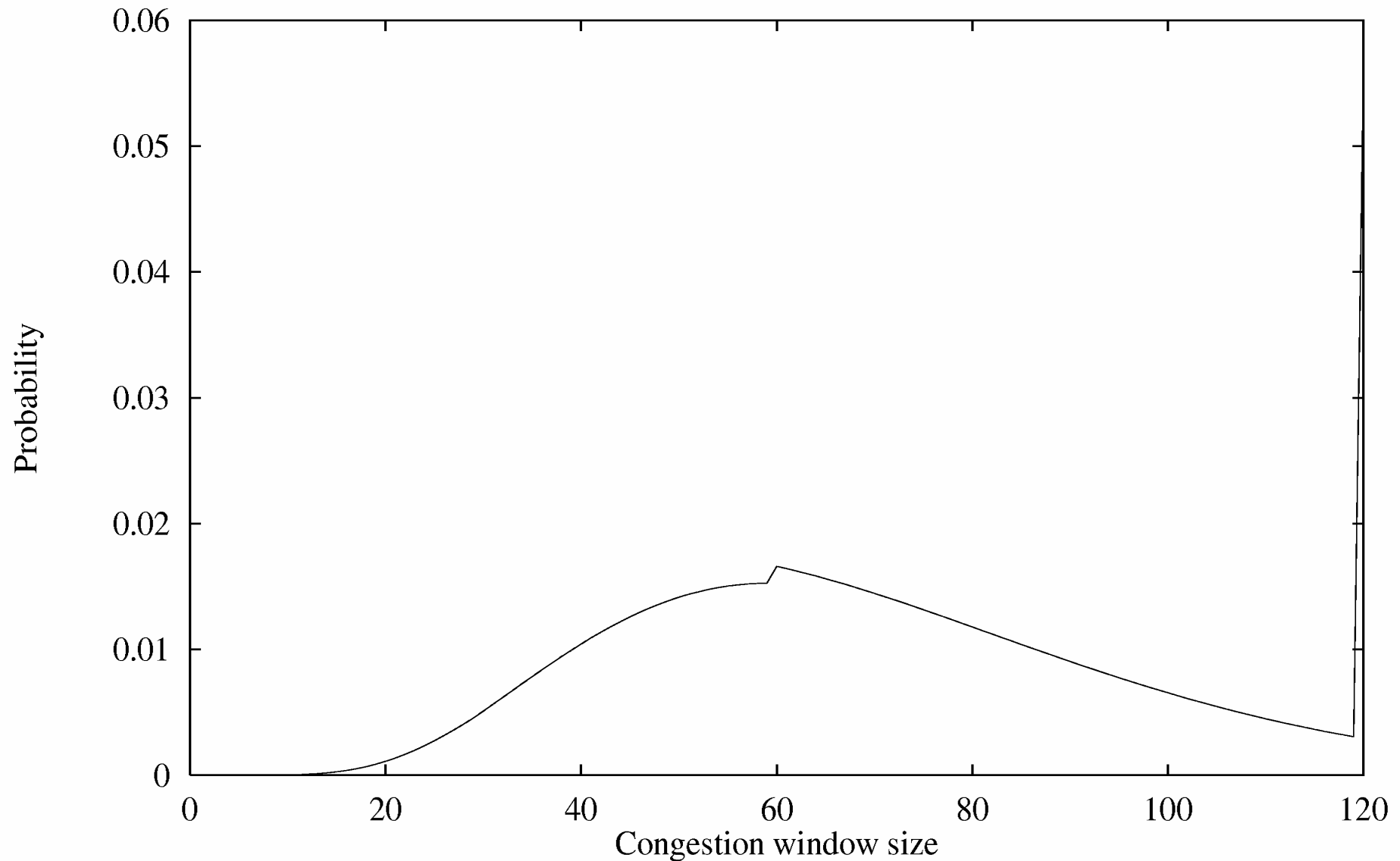


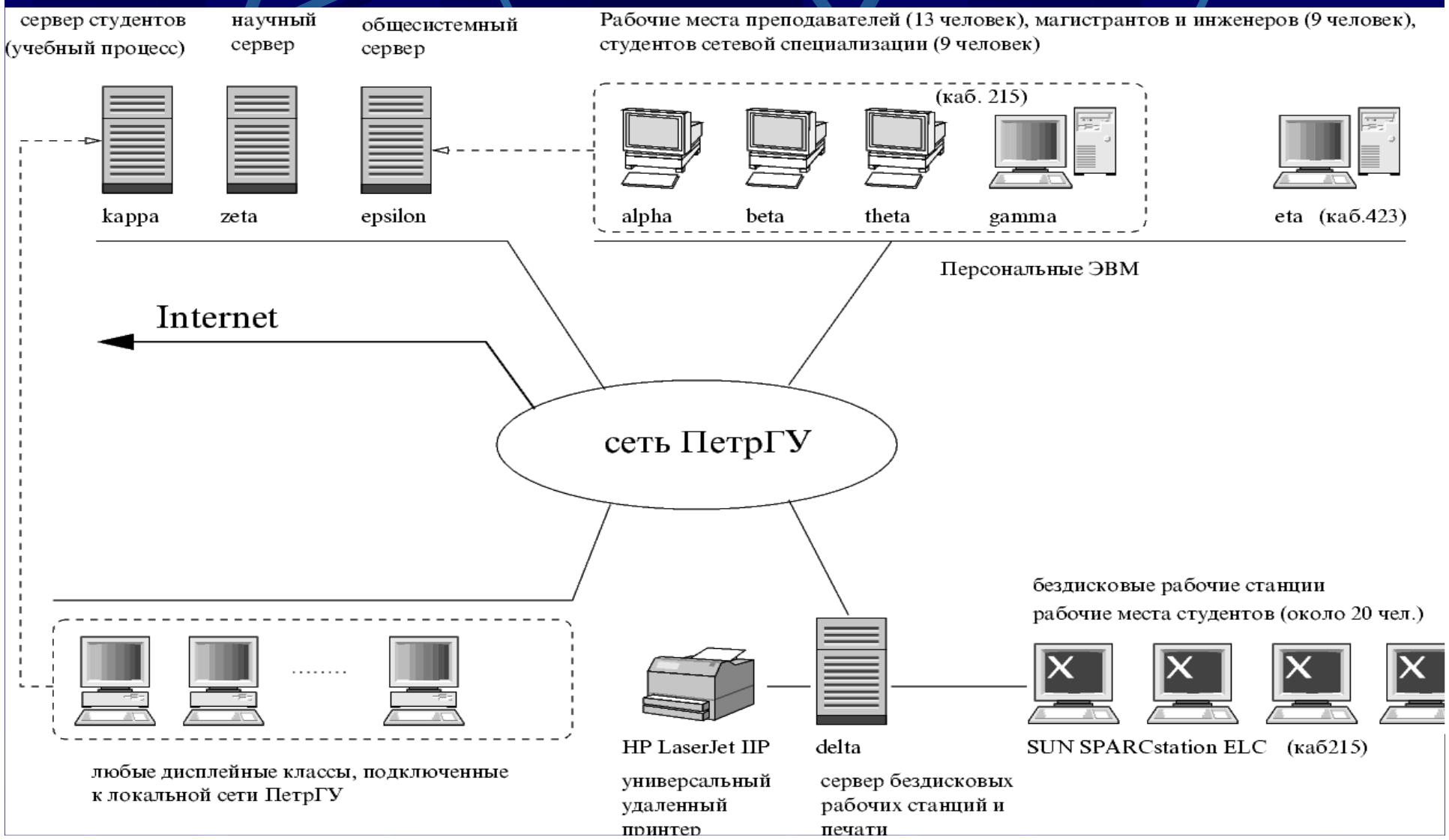
Figure 8.1: cwnd distribution. $p=0.00045$

Main results of the Cooperation. 4

- Computer System of the CS Dept. of the PetrSU has been developed. It is qualitatively fully equivalent to the one of the CS Dept. of the University of Helsinki (see the next slide)
- Common Core of Working Study Program is under development by CS Departments of the Universities of Helsinki and Petrozavodsk (to be presented later today)
- Specialization Area “Distributed Systems and Data Communication” similar to the one in Helsinki has been started at the PetrSU since 2001

Computer System of the CS Dept. of the PetrSU

Research and Student Linux servers, Linux/Win Prof NT Work Stations,
Full support of Internet, Text&Image Processing, Print Accounting, Main
OS SuSe 8.1, Easy access from any OS/student class via putty and CygWin



Conclusion

At the Department of Computer Science of the Petrozavodsk State University a team of young lecturers and scientists has been created who conduct modern research in the networking area.