YUZHNOYE

design office

PROJECT #4509

Creation uniform information space in association GUAM for remote scientific and technical cooperation and training

United informative space (UIS) – it single centralized database, in which information comes from the bases of these national servers and from which information comes in national server.

UIS are the standardized informative flows between the bases of these clients in the real mode of time.
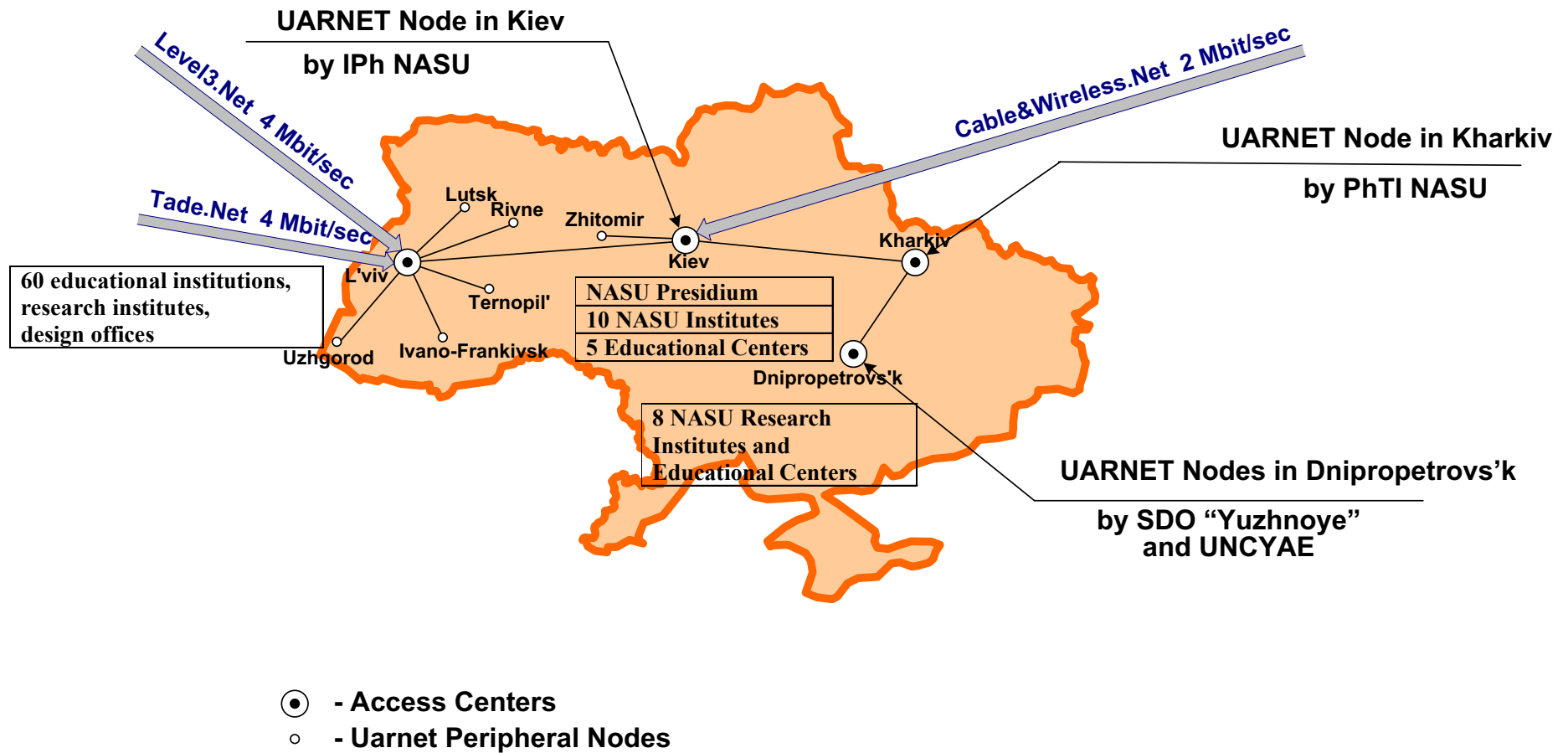
PURPOSE OF PROJECT

Integration of scientifically-educational national networks GRENA, UARNET, AZRENA and CIRN in united corporate network and incorporation of national servers in it for the informatively-programmatic providing of scientific and technical public of association of GUAM at the remote collaboration.

Basis of the project #4509

#	Project name	Financing side	Period	Basic results
1	National scientifically-educational networks	National budgets	1995-2000	The corporate networks uniting the scientific organisations of national Academies of sciences are created
2	Project #1220	STCU	2002-2004	«Uarnet» network knots are created in Dnipropetrovsk and Kharkov
3	Project #3383	STCU	2006-2007	The type infrastructure for remote interaction is created and the pilot methodology is developed
4	Project «Electronic Caucasus»	European union	2002-2005	The infrastructure for development of information-oriented societies in the countries of Transcaucasia is created
5	Project «Virtual Silk Road»	NATO	from 2005	Global Internet providing of the countries of Caucasus and Central Asia through communication satellites and fibre-optical lines

Project 1220
main connections of "UARNet" network

UARNET Node in Kiev

by IPh NASU

Level3.Net 4 Mbit/sec

Cable&Wireless.Net 2 Mbit/sec

Tade.Net 4 Mbit/sec

UARNET Node in Kharkiv

by PhTI NASU

Lutsk

Rivne

Zhitomir

Kharkiv

L'viv

Kiev

60 educational institutions, research institutes, design offices

Ternopil'

| NASU Presidium |
| 10 NASU Institutes |
| 5 Educational Centers |

Uzhgorod

Ivano-Frankivsk

Dnipropetrovs'k

8 NASU Research Institutes and Educational Centers

UARNET Nodes in Dnipropetrovs'k

by SDO "Yuzhnoye" and UNCYAE

◉ **- Access Centers**

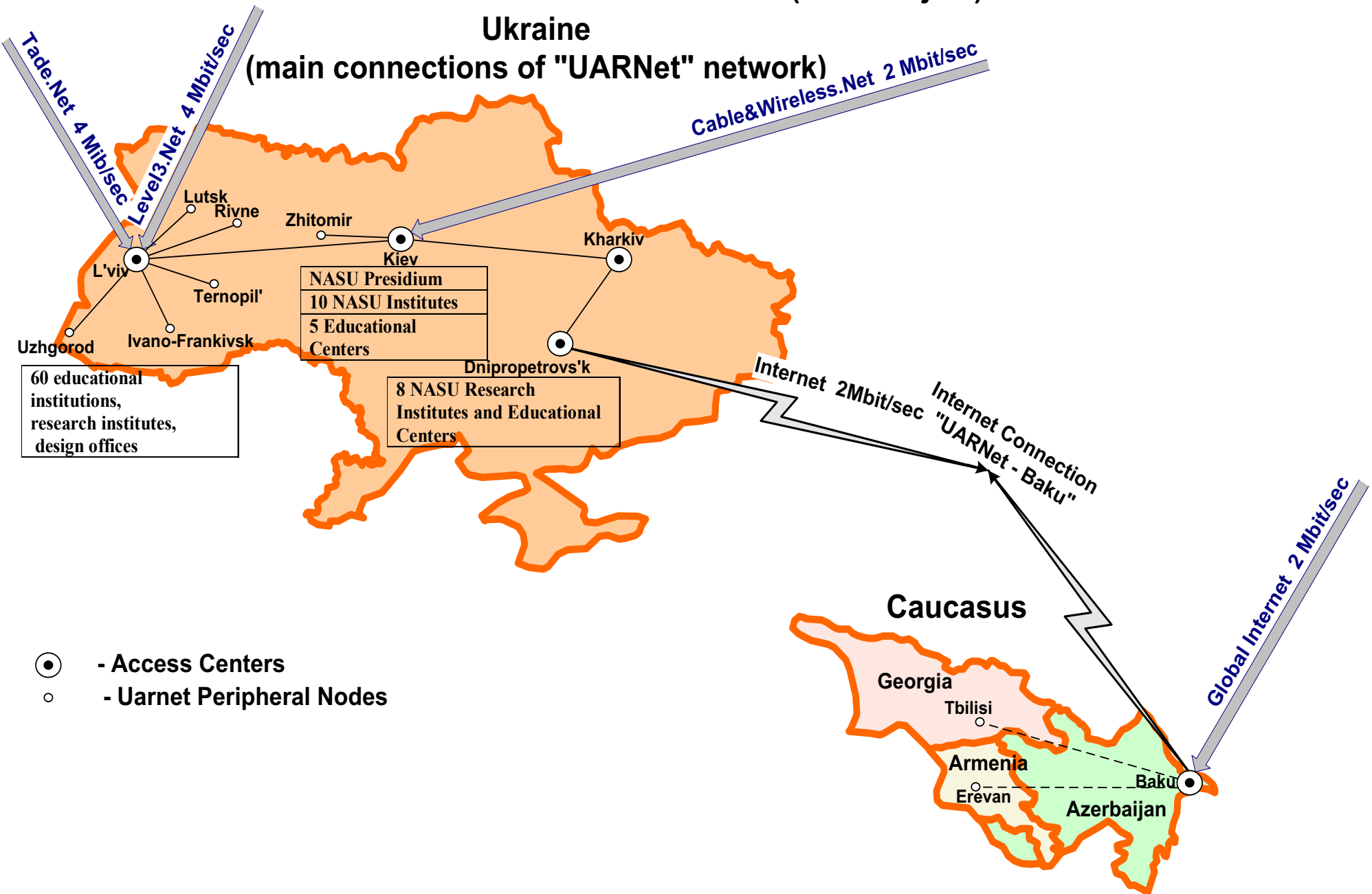○ **- Uarnet Peripheral Nodes**

Project 3383

The Scheme of "International System of Remote Cooperation and Training for Ukraine-Caucasus" (Pilot Project).

Ukraine
(main connections of "UARNet" network)

Tade.Net 4 Mib/sec

Level3.Net 4 Mbit/sec

Cable&Wireless.Net 2 Mbit/sec

Lutsk
Rivne
Zhitomir
Kharkiv
L'viv
Kiev
Ternopil'
Ivano-Frankivsk
Uzhgorod

| NASU Presidium |
| 10 NASU Institutes |
| 5 Educational Centers |

Dnipropetrovs'k

| 8 NASU Research Institutes and Educational Centers |

| 60 educational institutions, research institutes, design offices |

Internet 2Mbit/sec

Internet Connection "UARNet - Baku"

Global Internet 2 Mbit/sec

Caucasus

Georgia
Tbilisi
Armenia
Erevan
Baku
Azerbaijan

⊙ - Access Centers
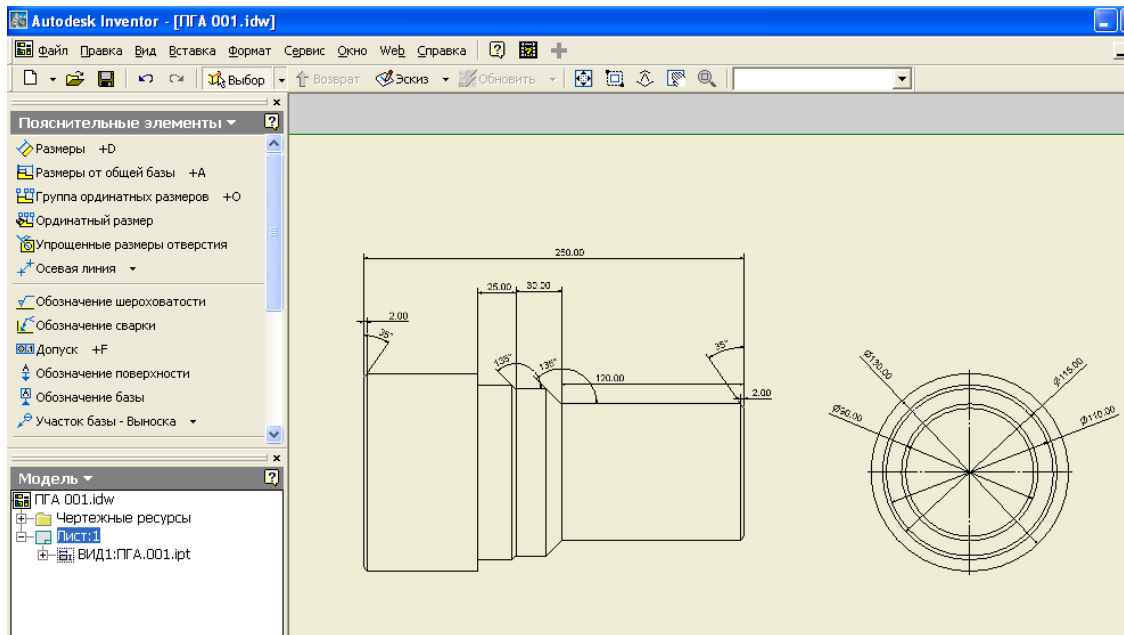
○ - Uarnet Peripheral Nodes

Project #3383

Internet-application.

1. Videoconferences, audioconferences.
2. IP-telephony
3. Internet-shop.
4. Internet-diagnosis.
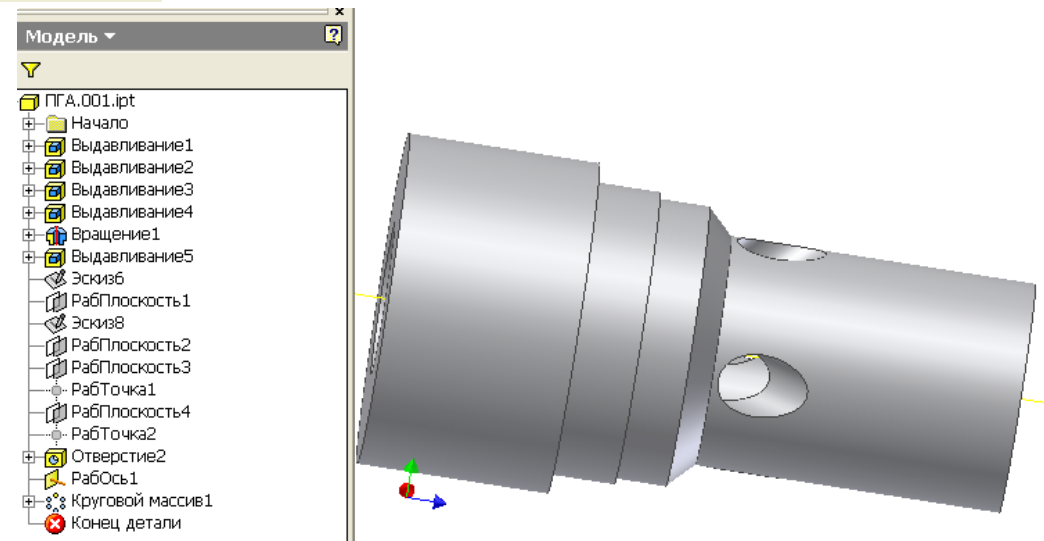5. Internet-"client-bank".
...

Internet-designing.
Internet-learning.

Example of reception of the detail drawing on its model at remote interaction
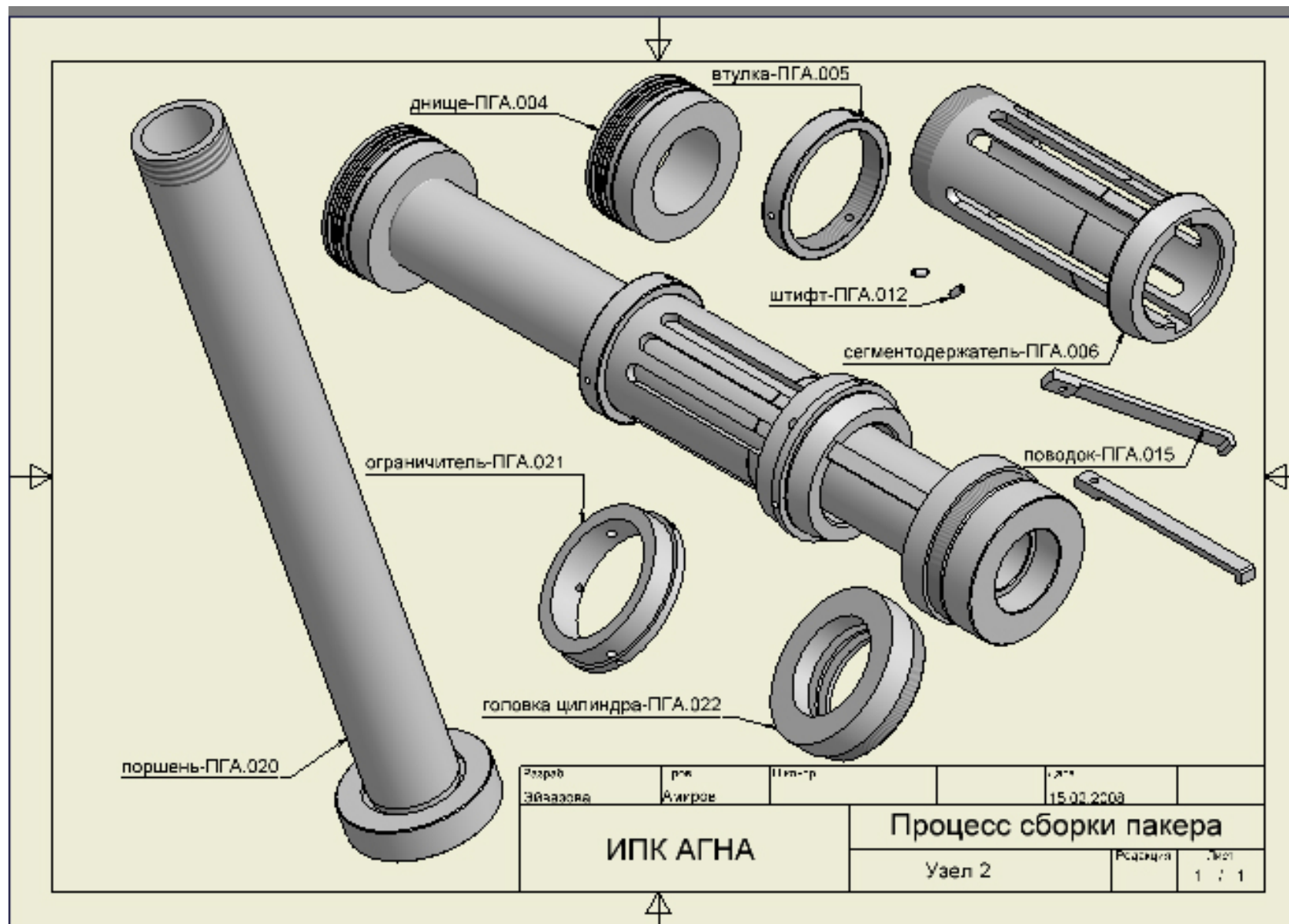

Model of detail ПГА.001

**Drawing of detail ПГА.001
in Autodesk Inventor**

Example of joint remote designing of unit «Paker»

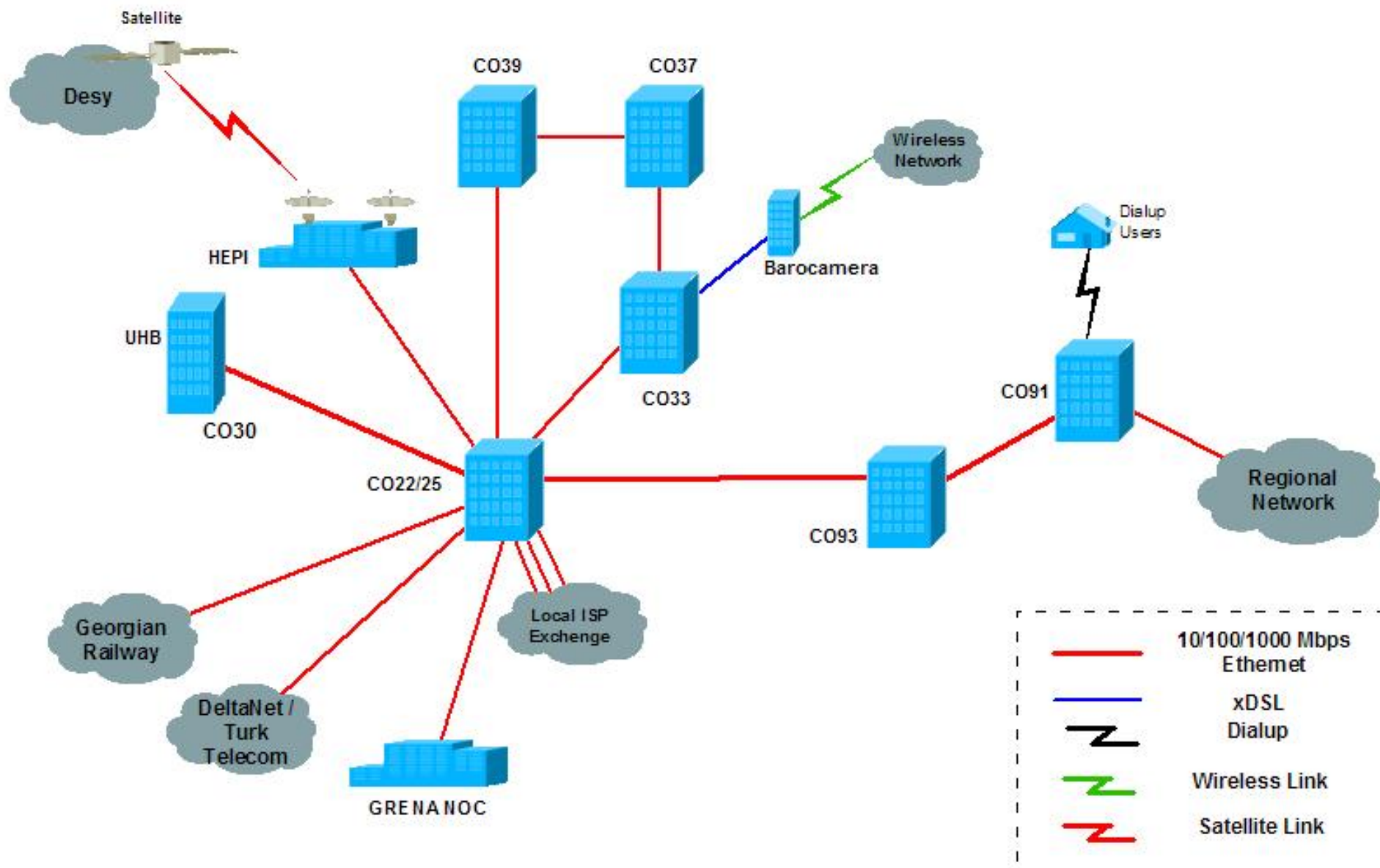# General view of the industrial practice class-room in UNCYAE

General view of the industrial practice class-room in Yuzhnoye SDO

General view of the industrial practice class-room in ASOA
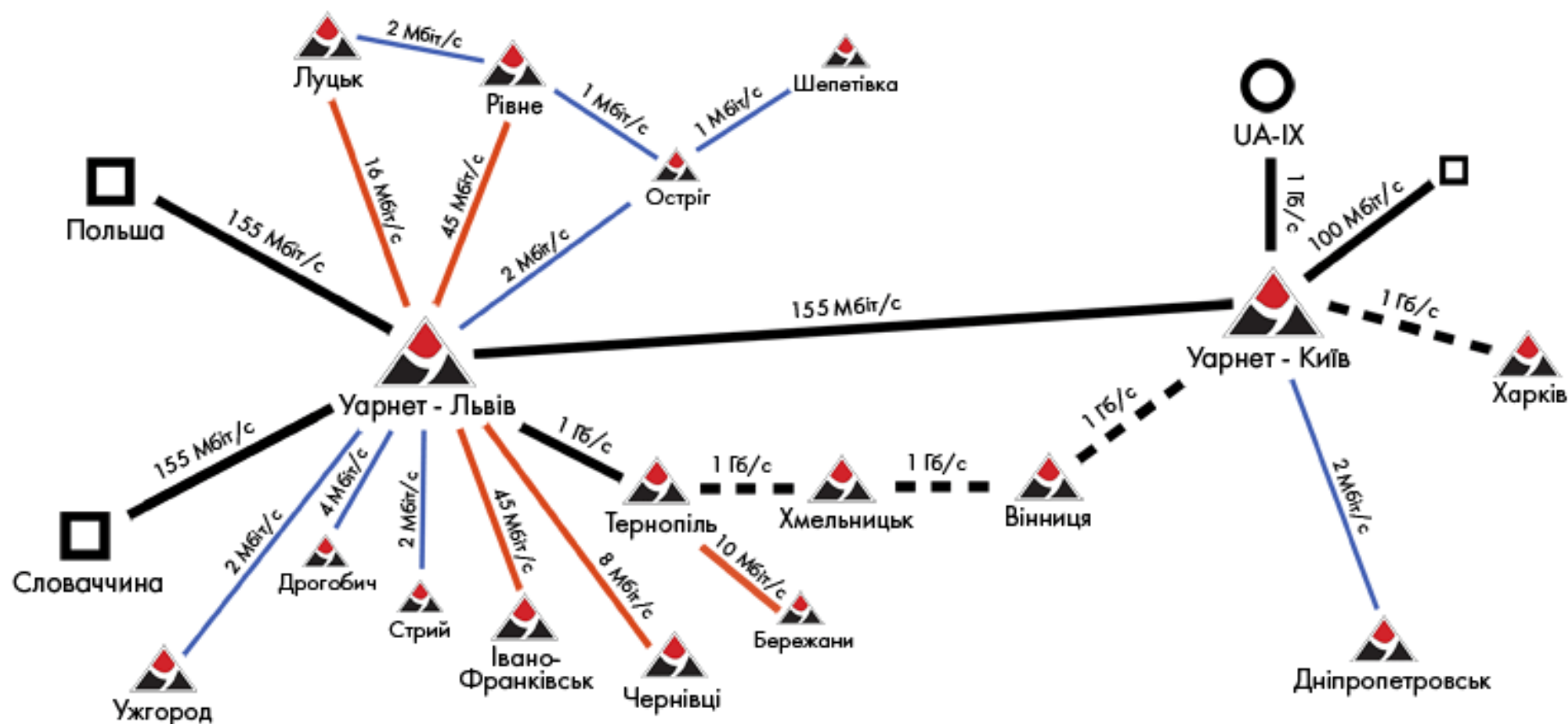
Scheme of the Georgian segment of GUAM information space

Scheme of the Azerbaijan segment of GUAM information space

Scheme of the Ukraine segment of GUAM information space

Scheme of the Moldova segment of GUAM information space

Project e-Caucasus

Based on National Research and Education Network Association (nRENA) structures, the EU funded Project "Development of e-Societies in South Caucasus" (Armenia, Azerbaijan and Georgia - EuropeAid/118678/C/SV/Multi) is now a prime opportunity for the introduction of modern online educational services with state-of-the-art courseware (e-Content) to be developed in close cooperation with mainstream education Institutions in the region.

Project "Virtual Silk Highway"

The main goal of the NATO "'Virtual Silk Highway" project was to bring highly cost effective, global Internet connectivity to the National Research and Educational Networks (NREN) in South Caucasus (Armenia, Azerbaijan and Georgia). The project started in 2002 and for the first stage satellite technology was used. NRENs in all participating countries were equipped with satellite station and networking equipment, needed for the establishment of connectivity node. Connectivity was provided to the research and educational community of countries via Deutsches Elektronen Synchrotron DESY (Hamburg, Germany) to the Pan-European research network GEANT.

System databases

#	Name	Arrangement on servers		
		General server of GUAM	**Training server**	**Designing server**
1	Information base for the scientists of GUAM countries about scientific and technical actions (conference, scientific readings) and the major publications	+		
2	Base of programs of remote training		+	
3	Base of programs of remote designing			+

System databases (continue)

#	Name	Arrangement on servers			
		Server of Georgia	Server of Ukraine	Server of Azerbaijan	Server of Moldova
4	Base of the research organizations	+	+	+	+
5	Base of leading scientists and experts authorities	+	+	+	+
6	Base of scientific and technical problems of the countries of GUAM	+	+	+	+
7	Base of scientific and technical problems in which specialists are ready to conduct joint activity	+	+	+	+

Bloc scheme of GUAM integrated information space

Project "Virtual Silk Way"

Project "e - Caucasus"

WAN

Local ISP

Local ISP

Information Space of GUAM

Local ISP

National Server

VPN channel

VPN channel

LAN

LAN

National Server

Academic and Scientific organizations

Router

LAN

National Server

National Server

GUAM Server

National Server

National Server

Switch

University and Institute

Dialup Access Server

Individual user

Georgia

Ukraine

Azerbaijan

Moldova

Scientific Library

Wireless Access point

Users group

Typical structure of national segment

United Informative Space (UIS)

Level of SIP

Subject of Information Processing 1

Database of SIP

Database of SIP

Search in a site	- - -	Potential Executors	Training	Customer of scientific development	- - -	CAD system

Applications of SIP

– – – –

– – – –

Subject of Information Processing N

National server of Ukraine

Database
Assemblage of dataware incoming into Database of SIP

Library of applications

National server of Georgia

Database
Assemblage of dataware incoming into Database of SIP

Library of applications

National server of Azerbaijan

Database
Assemblage of dataware incoming into Database of SIP

Library of applications

National server of Moldova

Database
Assemblage of dataware incoming into Database of SIP

Library of applications

Server of GUAM

Database of hub of UIS

Comprehensive list of information objects of UIS

Library of applications of UIS

ORGANIZATION FOR DEMOCRACY
G|U|A|M
AND ECONOMIC DEVELOPMENT

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Tbilisi

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Member States

Secretary General

Structure

Statutory Documents

Joint Declarations, Statements, Communiques

Agreements

GUAM-USA Framework Programm

Cooperation in International Organizations

Parliamentary Assembly

Business Council

Vacancies and Tenders

Secretary General of GUAM took part in a meeting with professors and students of National Aviation University Institute of international Relations

On 11 November 2008, Secretary General of GUAM took part in a meeting with professors and students of National Aviation University Institute of International Relations.
Secretary General provided to the audience information on the history of GUAM, its goals and objectives, positioning of the Organization in the network of international relations, priorities of GUAM Georgian Presidency, cooperat

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On 10 November 2008 Secretary General of the Organization for Democracy and Economic Development – GUAM Mr. V.Chechelashvili was received by the Deputy Minister of Foreign Affairs of Ukraine, GUAM National Coordinator of Ukraine Mr. O.Gorin

G|U|A|M

G|U|A|M

G|U|A|M

G|U|A|M

Site: Scientific and technical cooperation in association GUAM

Sections:

(References)

GUAM News **(a site of secretary GUAM)**

Scientific and technical news conferences, seminars, achievements…)

The major scientific and technical publications

Joint remote designing

Remote education

National scientific and technical sites

Site: National scientifically and technical site

Sections:
(References)

Scientists and experts on according to branches

Research organisations

Scientific and technical problems

Stages of works

Number stage	Name of works	Terms (on quarters) 01.10.08 — 01.11.09			
		1	2	3	4
1, 2, 3	Development of requirement specification on the system, flow diagram and issue of pilot project	■			
4, 5	Creation of industrial practice classes, carrying out of experiments		■		
6, 7	Completion of methodology of remote cooperation according to problems of the project #4509			■	
8, 9, 10,11,12	Creation of servers of the project #4509, information sites, databases			■	■
13	Development of draft design and defence of its basic positions for the purpose of definition of expediency of continuation of the project under the auspices of STCU				■