The usage of distance learning for the implementation of training standards in ATM

Moscow
September 2004

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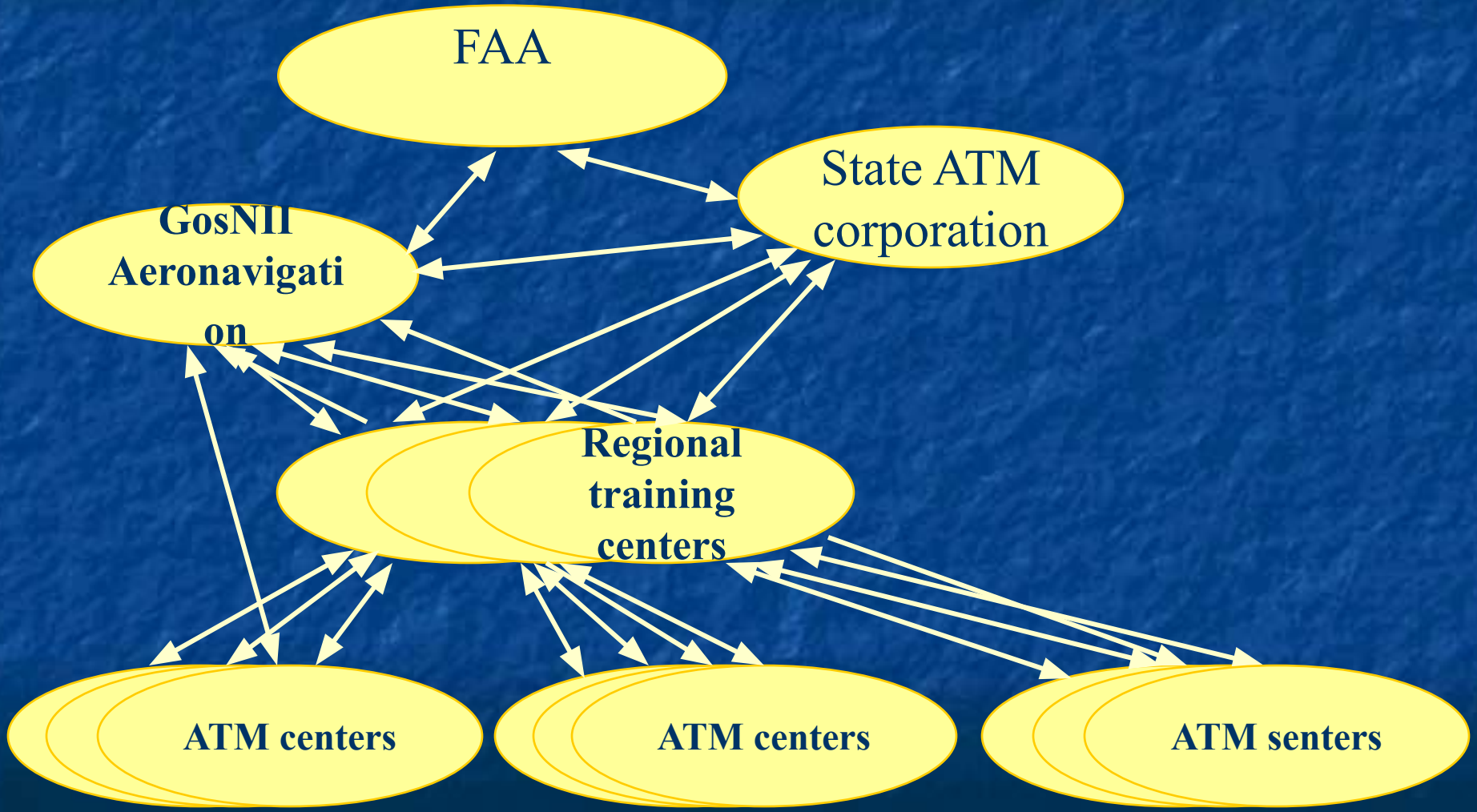
GosNII "Aeronavigatsia"

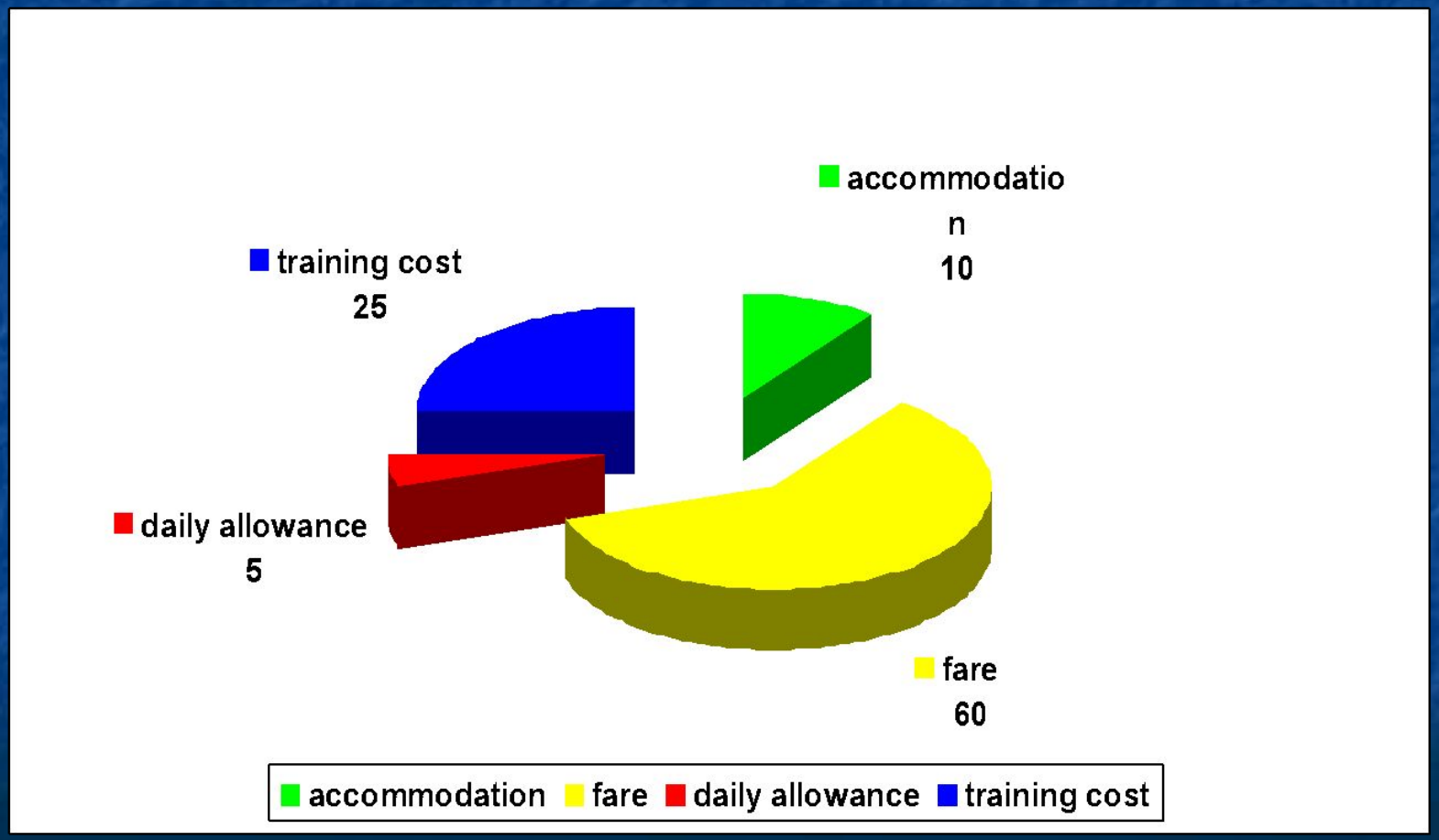
Organization of professional ATCo's training



FAA training requirements

- Annual training (refresher training):
  - Technical training
  - Training of special features before the winter and summer time
  - Preparation for the license validation
  - Training in the case of ATC operational mistakes
  - Self training
- Getting permission for new ATC sector
- Upgrade training within two years
  - ATM training
  - Language training
- In case of changing of the work duty

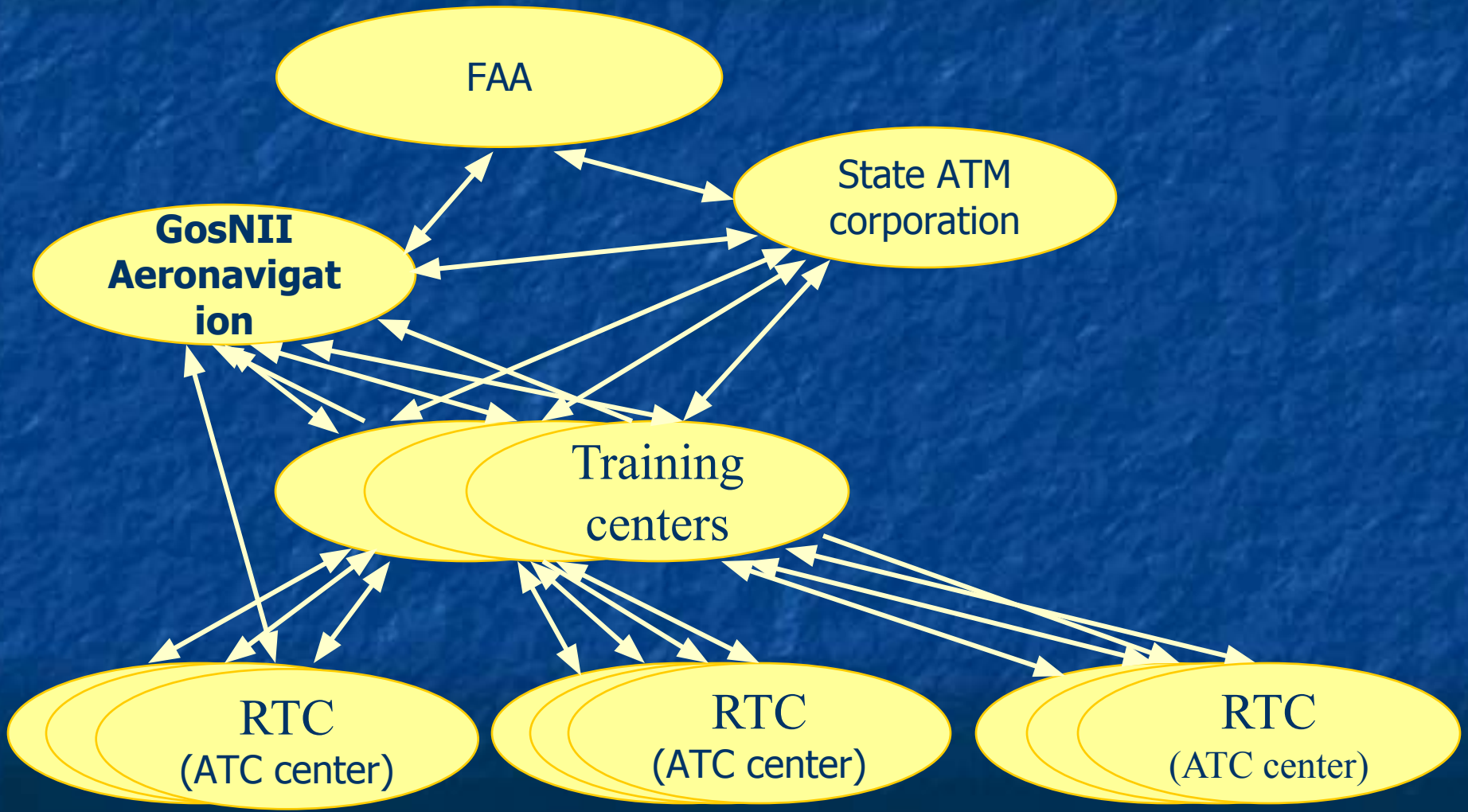
Training cost distribution



Distance learning in Russian ATM system (Milestones)

- 1996-1999 the research and the first phase of work
- 2003 the order of FAA to use the distance learning methods in training
- 2004 год 50 ATC centers apply the distance learning approach in training

Structure of ATM distance learning network



Krasnoyarsk region

Podkamennaya – Tunguzka

Tunguzska

Tura

Krasnoyarsk center

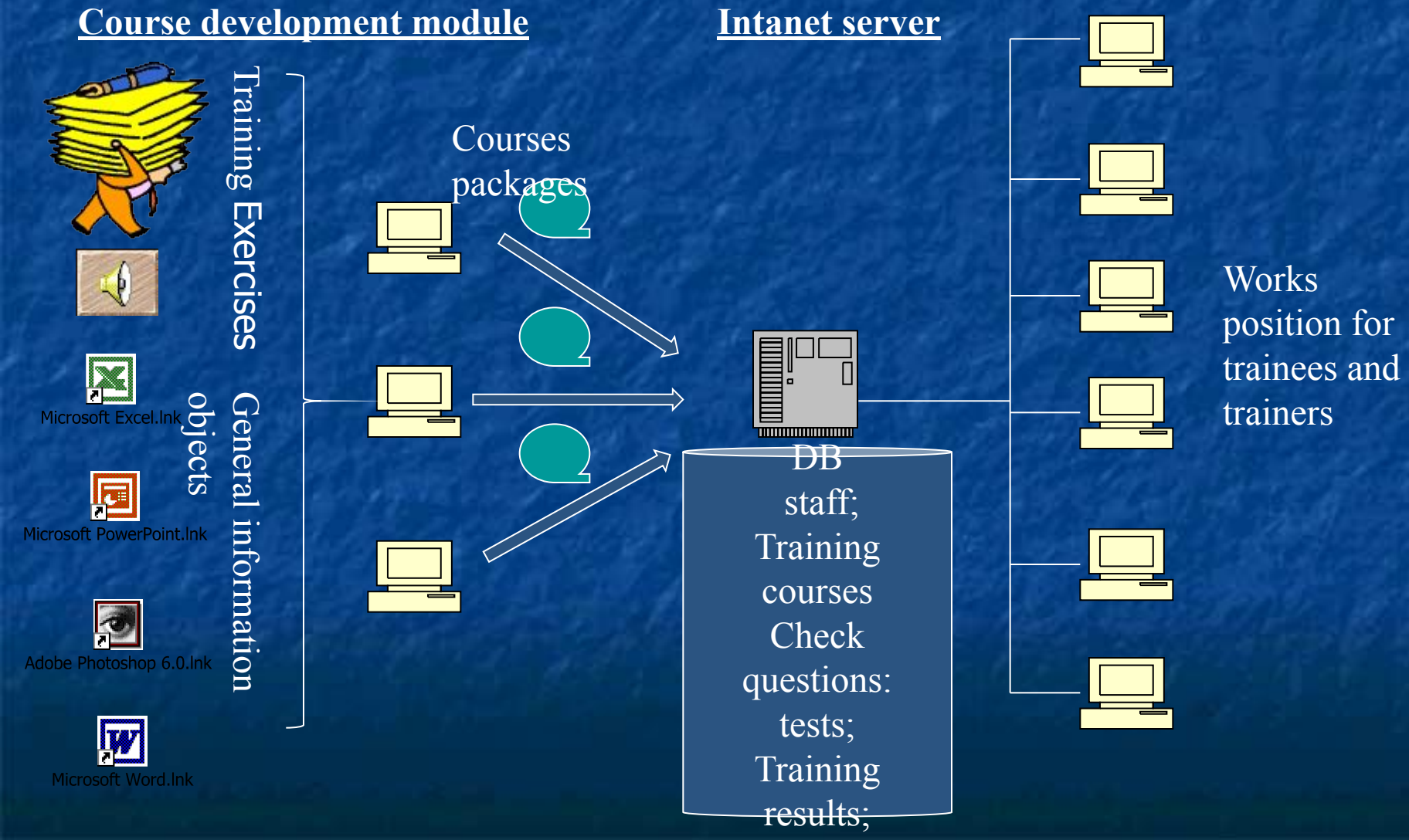
Tr. Cen-ter

Vanavara

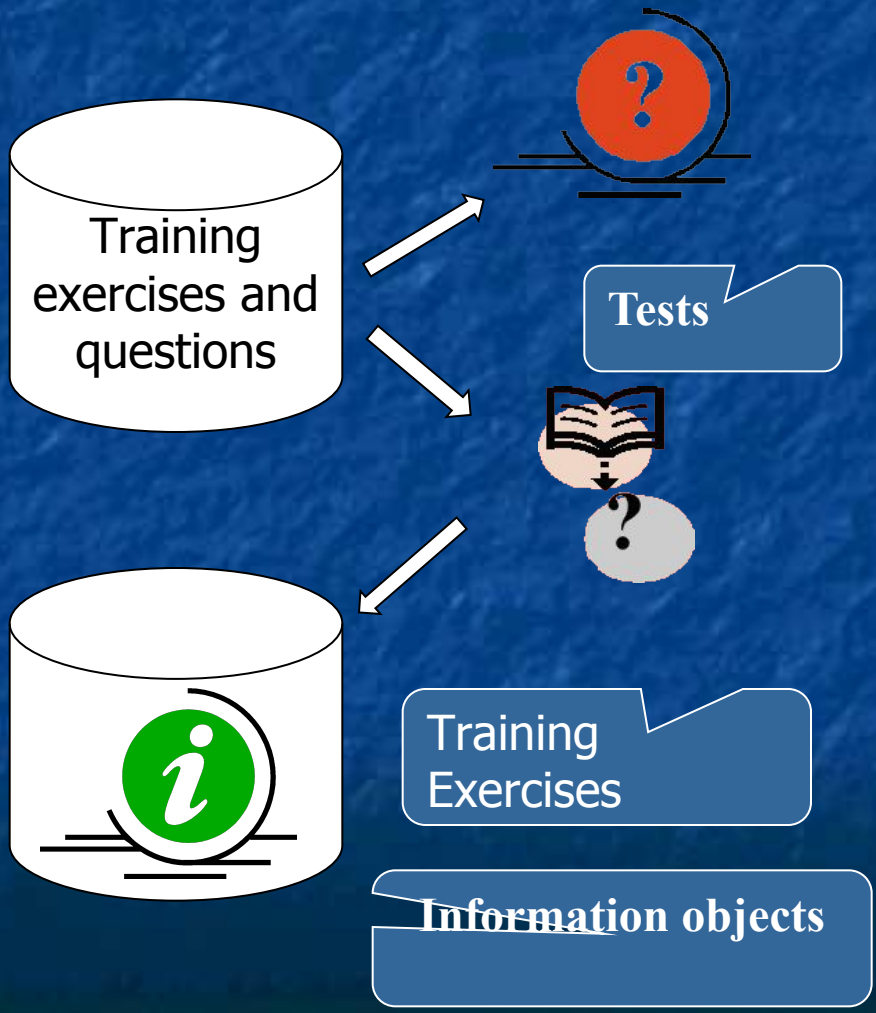
Abakan

Kyzyl

Computer training tools structure for ATM distance learning system



Methods of training with the usage of computer training tools



Individual access

Individual access to Information data base

Self training

training

test

Training and information data base development

Approved syllabuses

- Russian and International documents
- Training materials
- Media recourses
- Check questions, tests

Training and information data base

Russian regulatory documents: about 20 documents defining the rules of operation of ATM system

Training courses:

1. Flight safety provision
2. Aero navigation
3. Aviation meteorology
4. Aircraft performance
5. Technical flight provision
6. Air traffic service

Training and information data base for language training

1. ICAO phraseology, containing about 60 topics and 300 linguistic exercise
2. ATC communication in emergency
3. General English
4. Aviation lexicon
5. Aviation English dictionary
6. ICAO phraseology test

Multimedia Exercise Templates

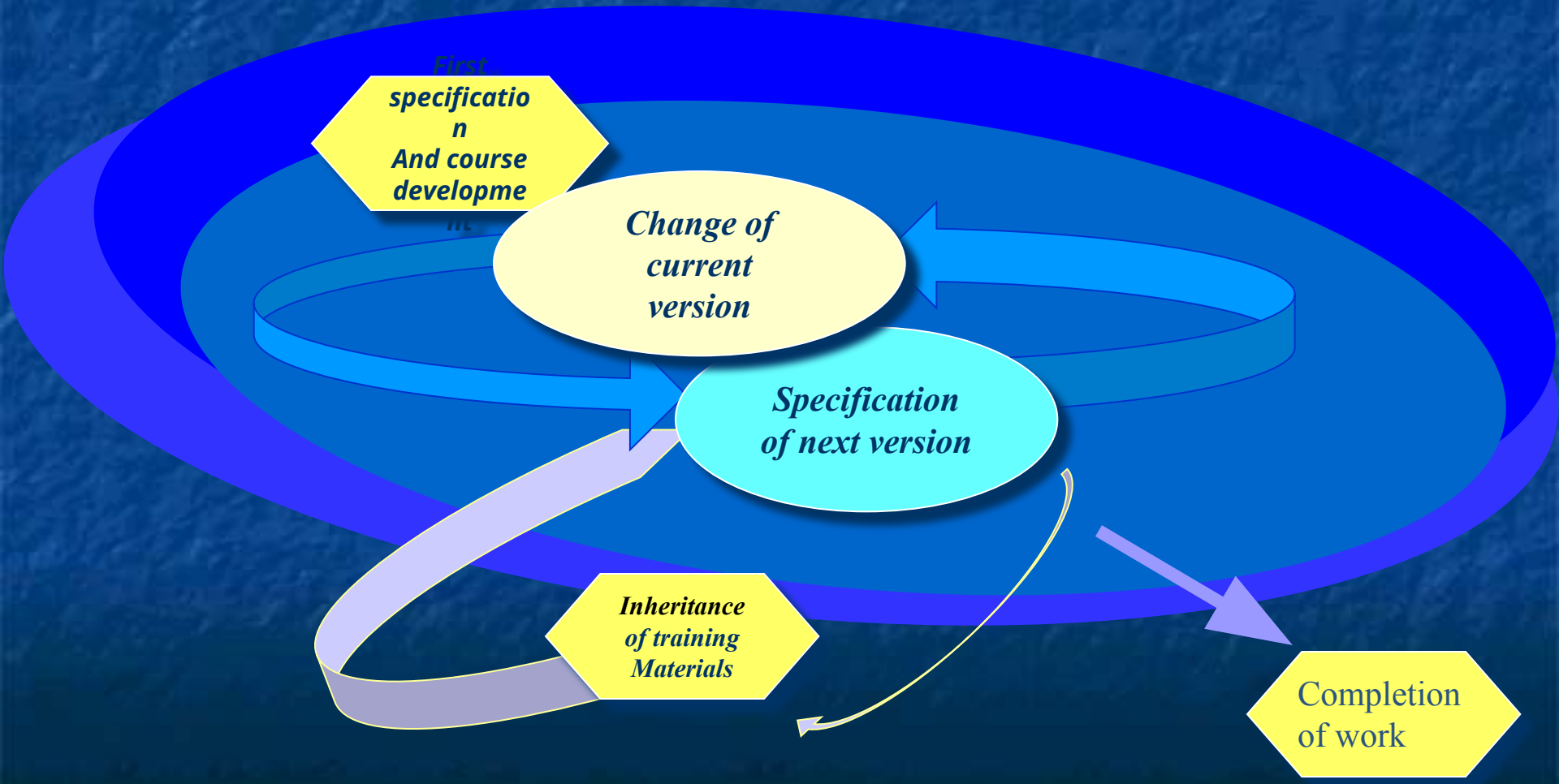
1. Find Pairs
2. Image Matching
3. Picture Matching
4. Crossword
5. Abbreviations
6. How do you say
7. Look and say
8. Match words to phrases
9. Multicombo
10. Compose sentence
11. Multiple choice
12. Listen. Fill in the blanks
13. Listen. Choose the answer
14. Listen. Compose the answer
15. Universal exercise
16. Text
17. Dialogue

Training and information data base

Questions:

- About 2000 questions for the aviation theory test of ATC controllers
- About 8000 alternative answers
- About 1000 questions for the ICAO phraseology test of ATC controllers
- About 8000 alternative answers

Course development process

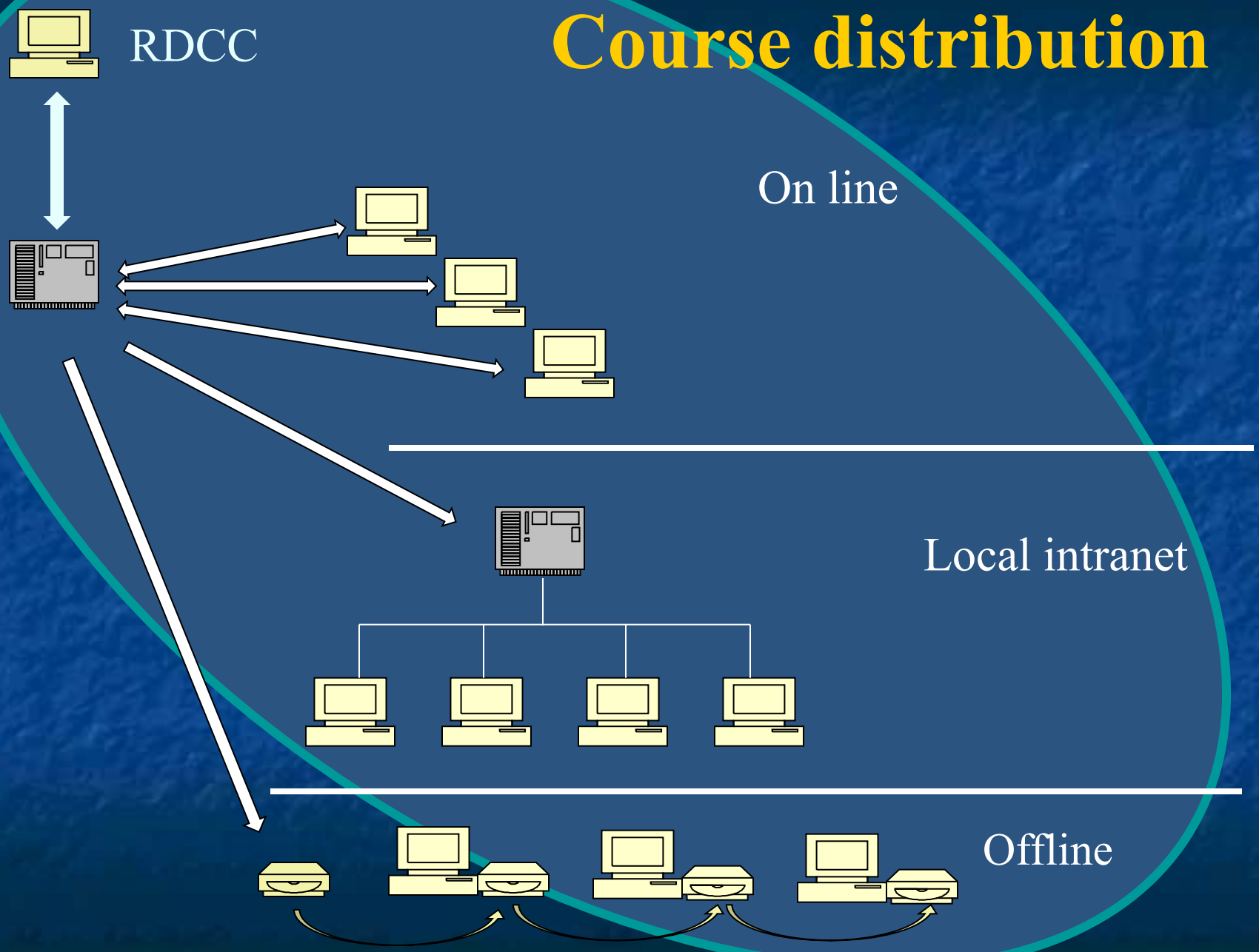


Training and information data base

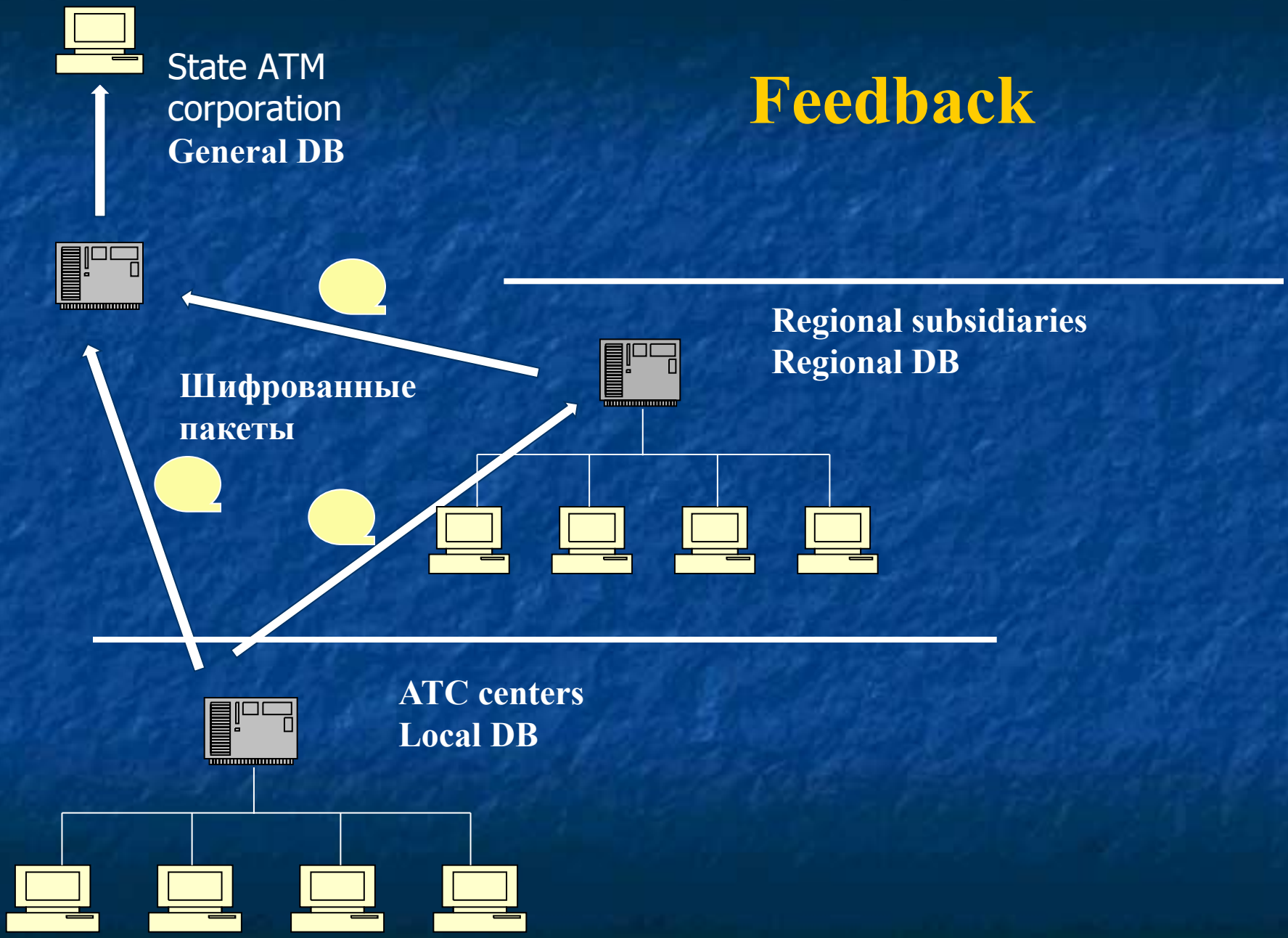
Extension of syllabuses :

- ATS in the RVSM airspace
- ATS with the TCAS operation
- ICAO language proficiency test
- ….

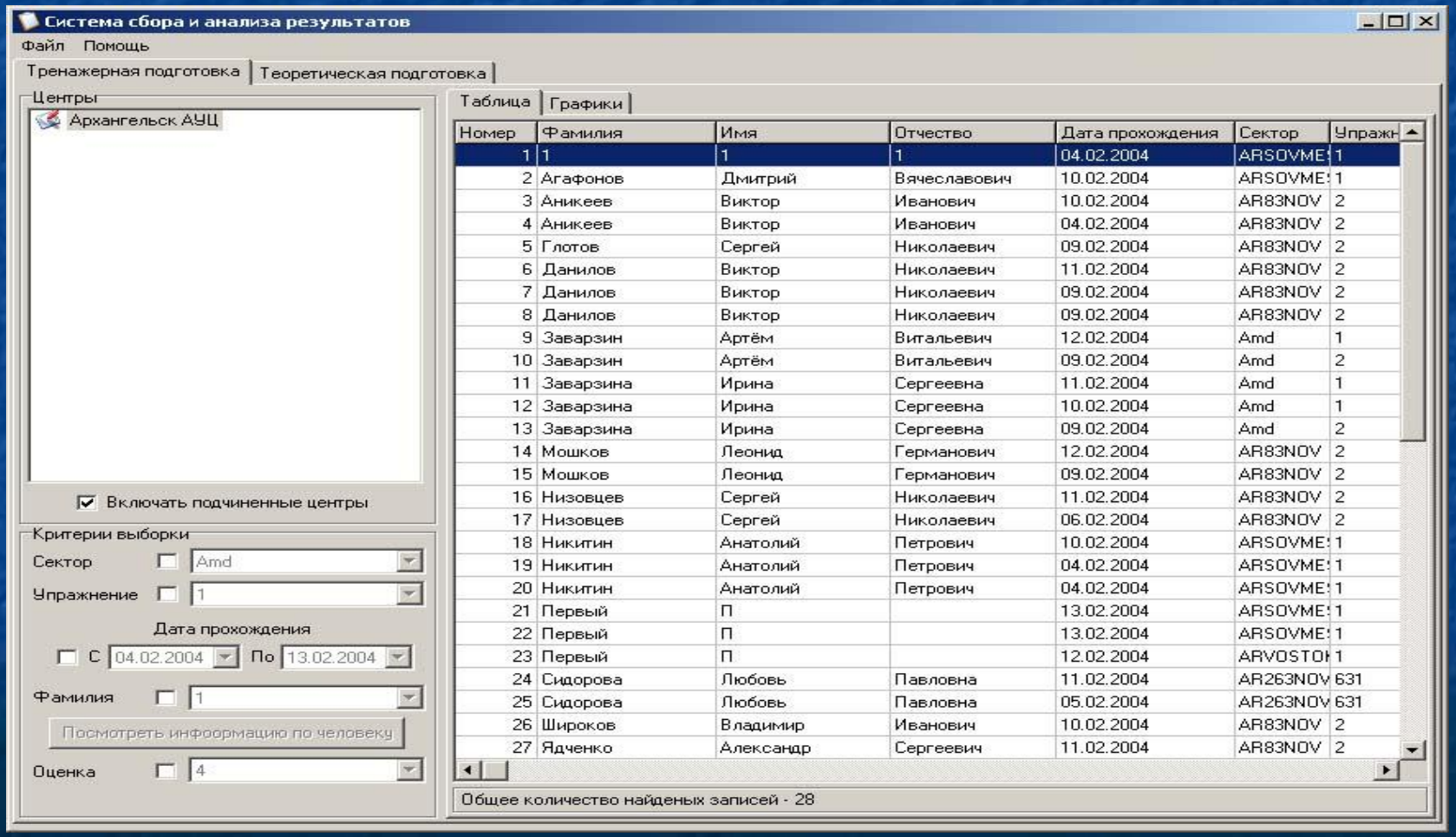
Course distribution



Feedback


State ATM
corporation
General DB
Regional subsidiaries
Regional DB
Шифрованные
пакеты
ATC centers
Local DB

Training results analyses system



The benefit of distance learning approach

- The quality training provision in remote ATC centers
- Implementation of the training standards
- Permanent quality control
- Methodology and information support of training in ATC centers
- Accumulation of knowledge and skills

Area of collaboration

- Mutual development of training and information data base with CIS countries and Eurocontrol in the following areas:
  - Harmonization of CCC and the core of training and information data base
  - Extension of aviation language course library
  - Aviation language test development
  - Extension of training and information data base in the case of new technology and equipment implementation
- Establishing of join training centers using the combination of training technologies