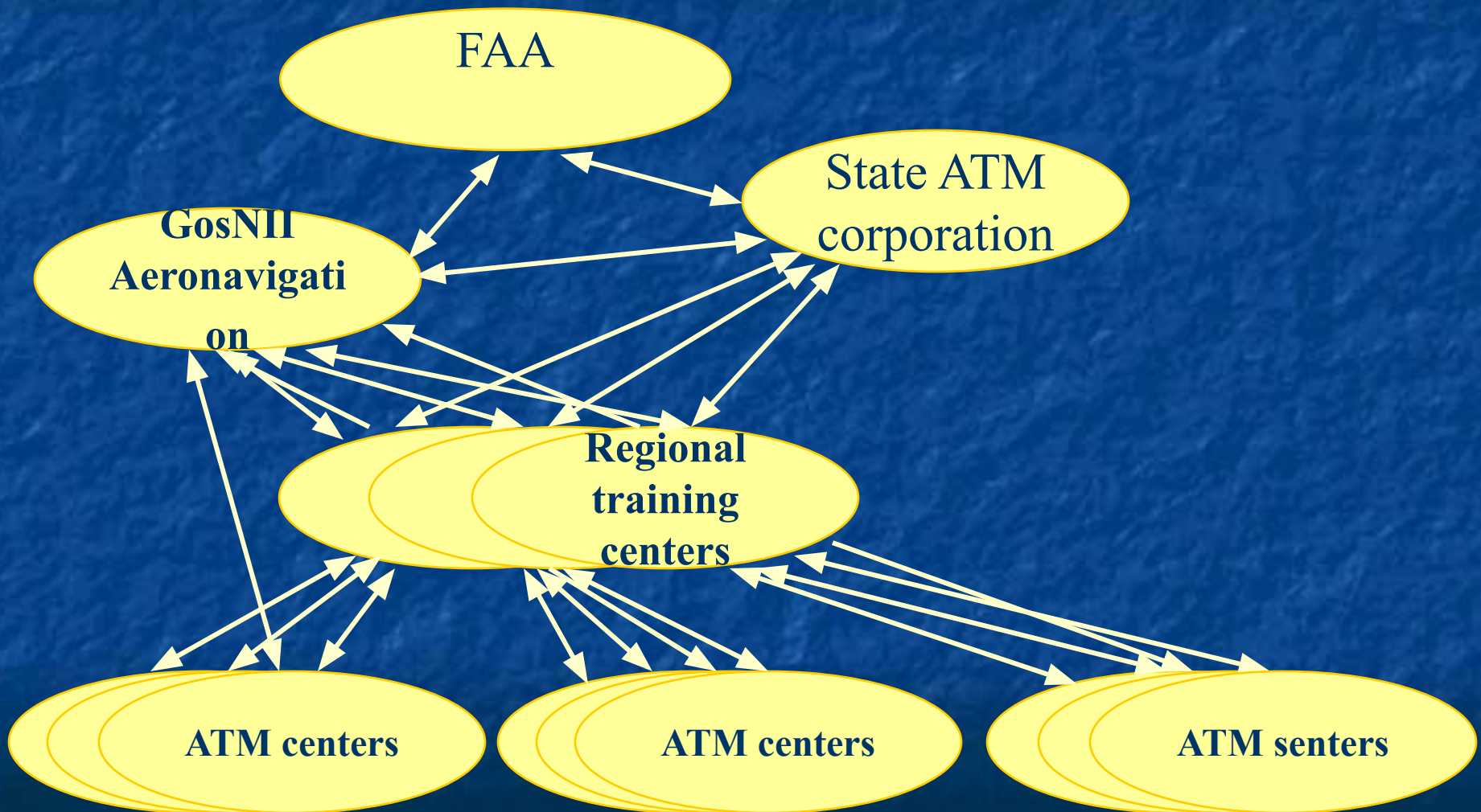


The usage of distance learning for the implementation of training standards in ATM

*Moscow
September 2004*

*Evgeny Shcherbakov,
GosNII "Aeronavigatsia"*

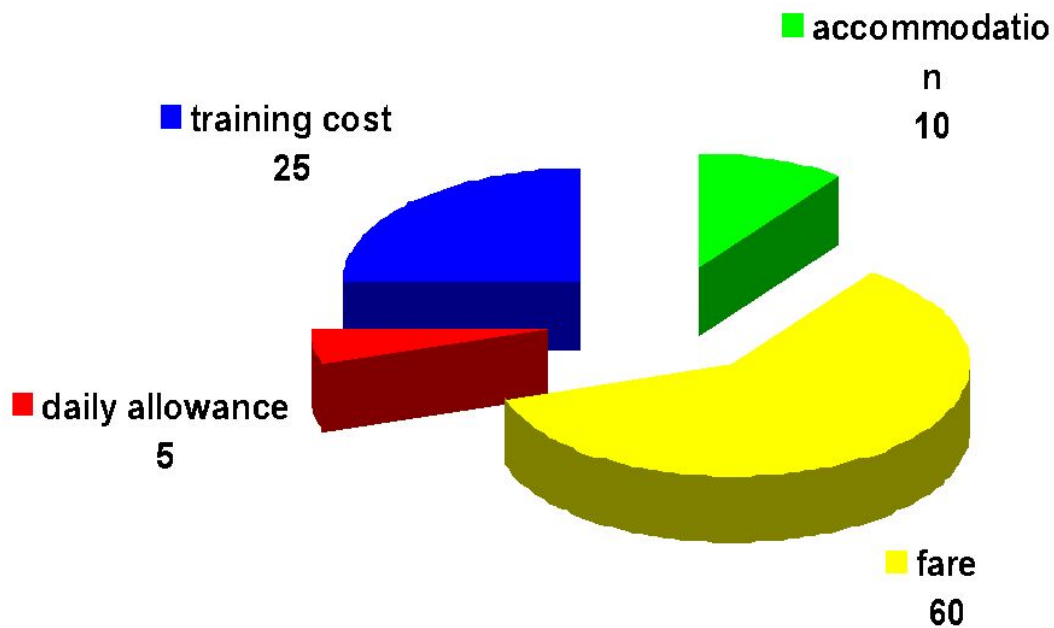
Organization of professional ATCo's training



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



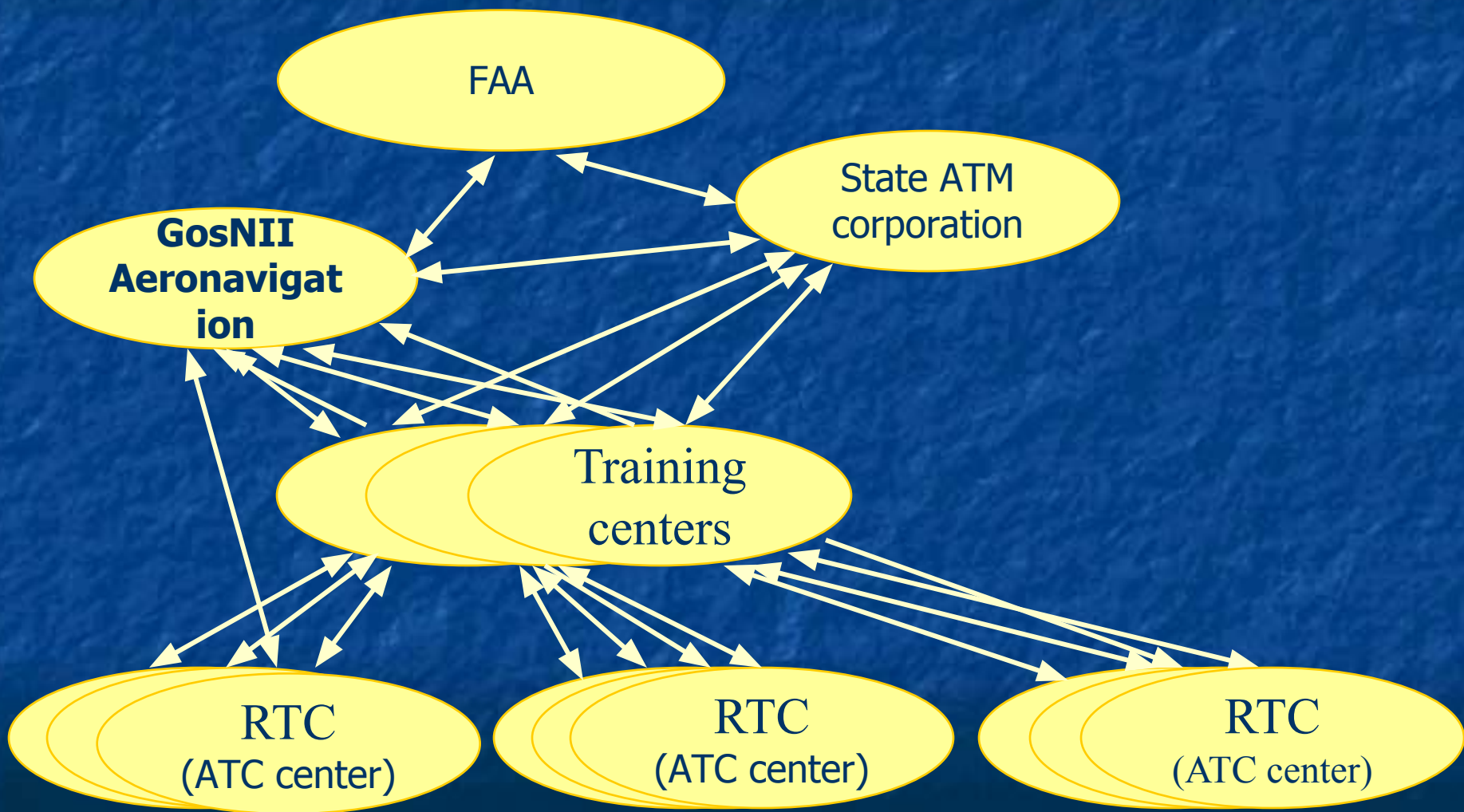
■ accommodation ■ fare ■ daily allowance ■ training cost

Distance learning in Russian ATM system

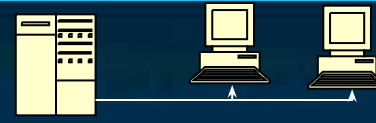
(Milestones)

- 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



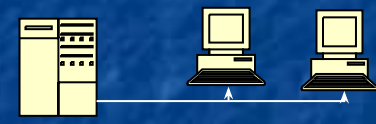
Krasnoyarsk region



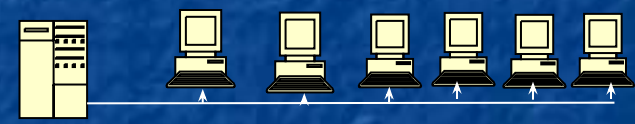
Tunguzska



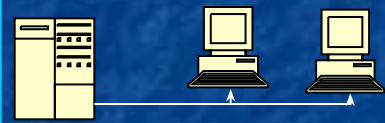
Tura



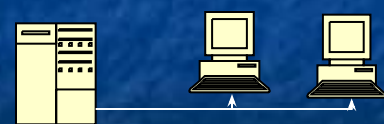
Krasnoyarsk center



Tr. Center



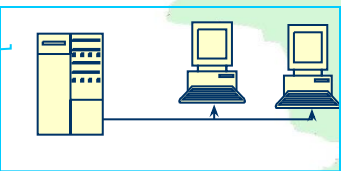
Vanavara



Abakan

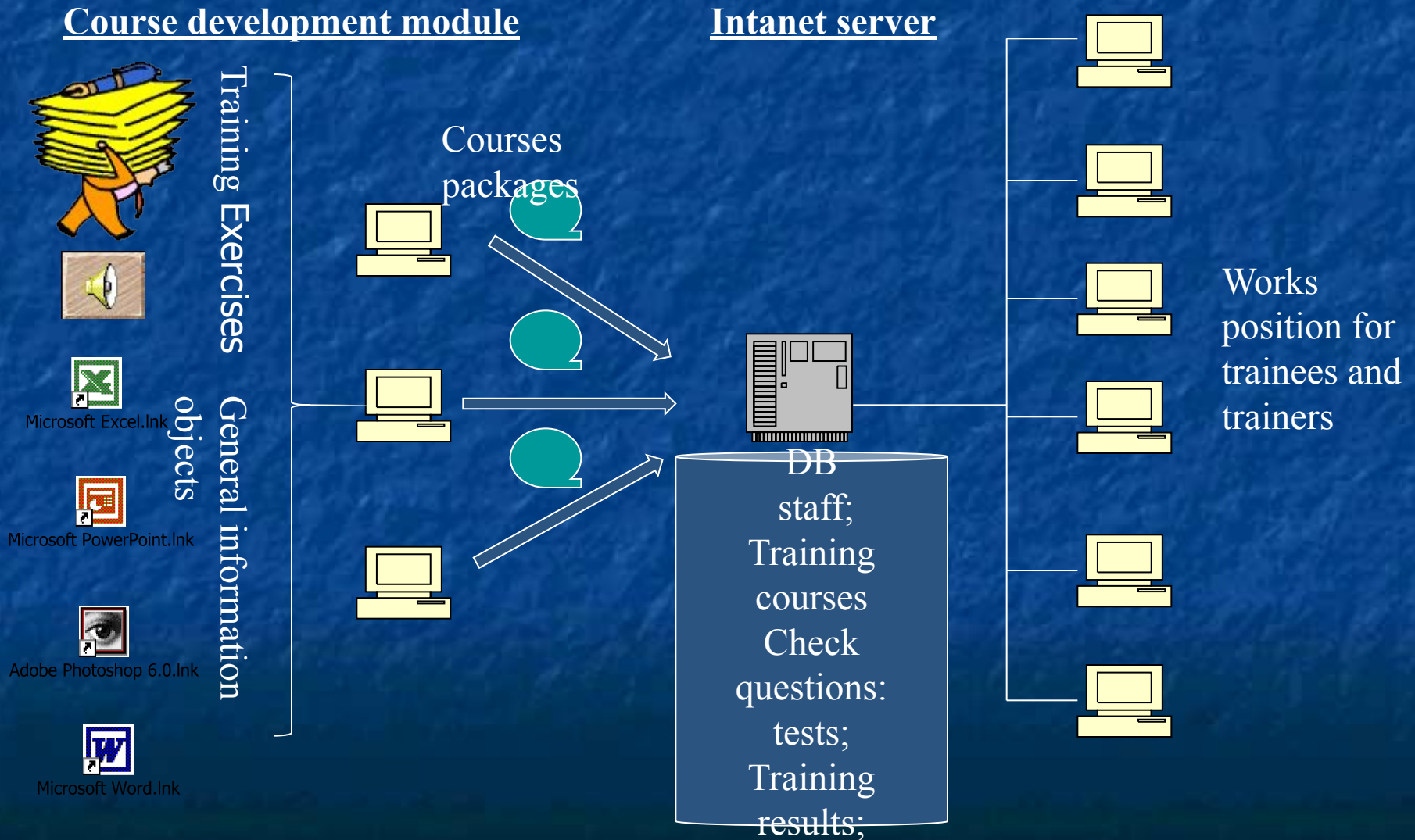


Kyzyl

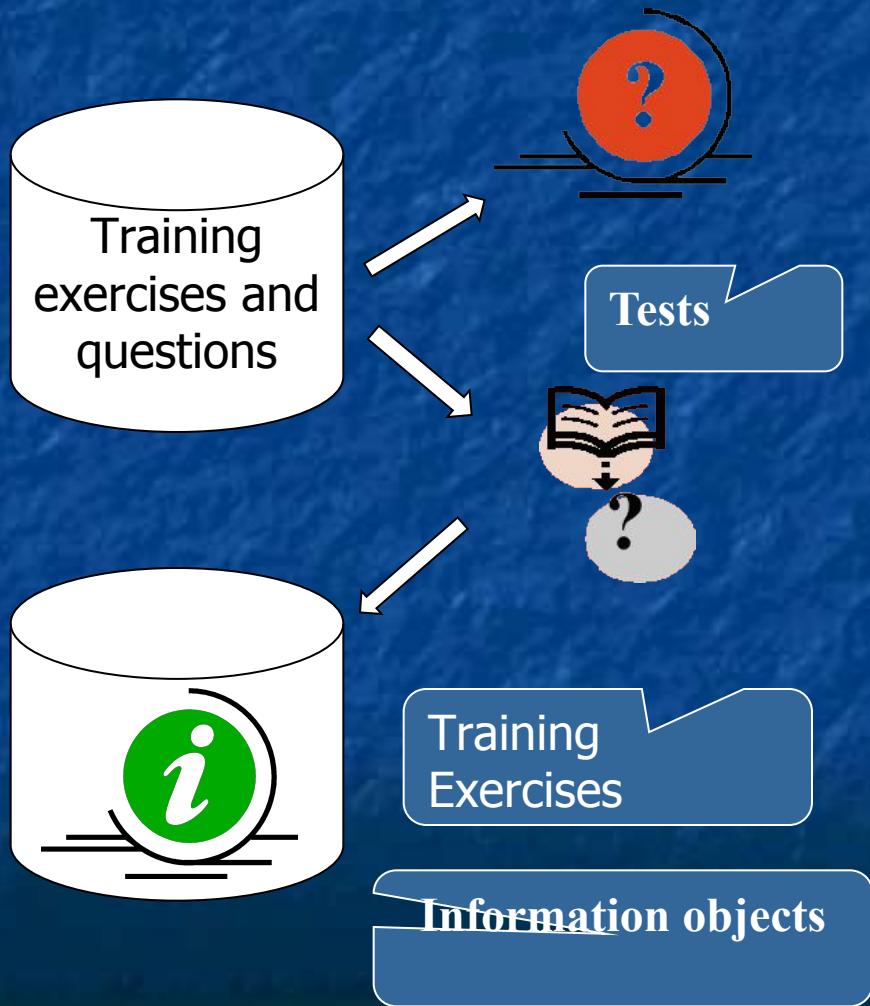


Podkamennaya –
Tunguzka

Computer training tools structure for ATM distance learning system



Methods of training with the usage of computer training tools

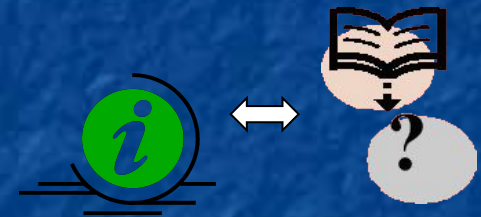


Individual access

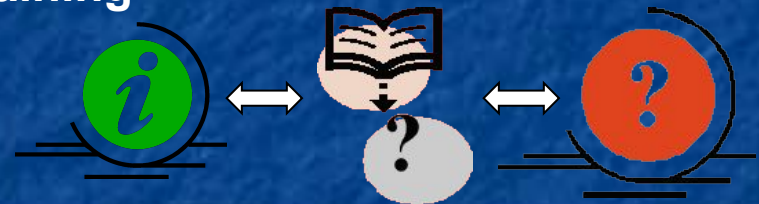
Individual access to Information data base



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

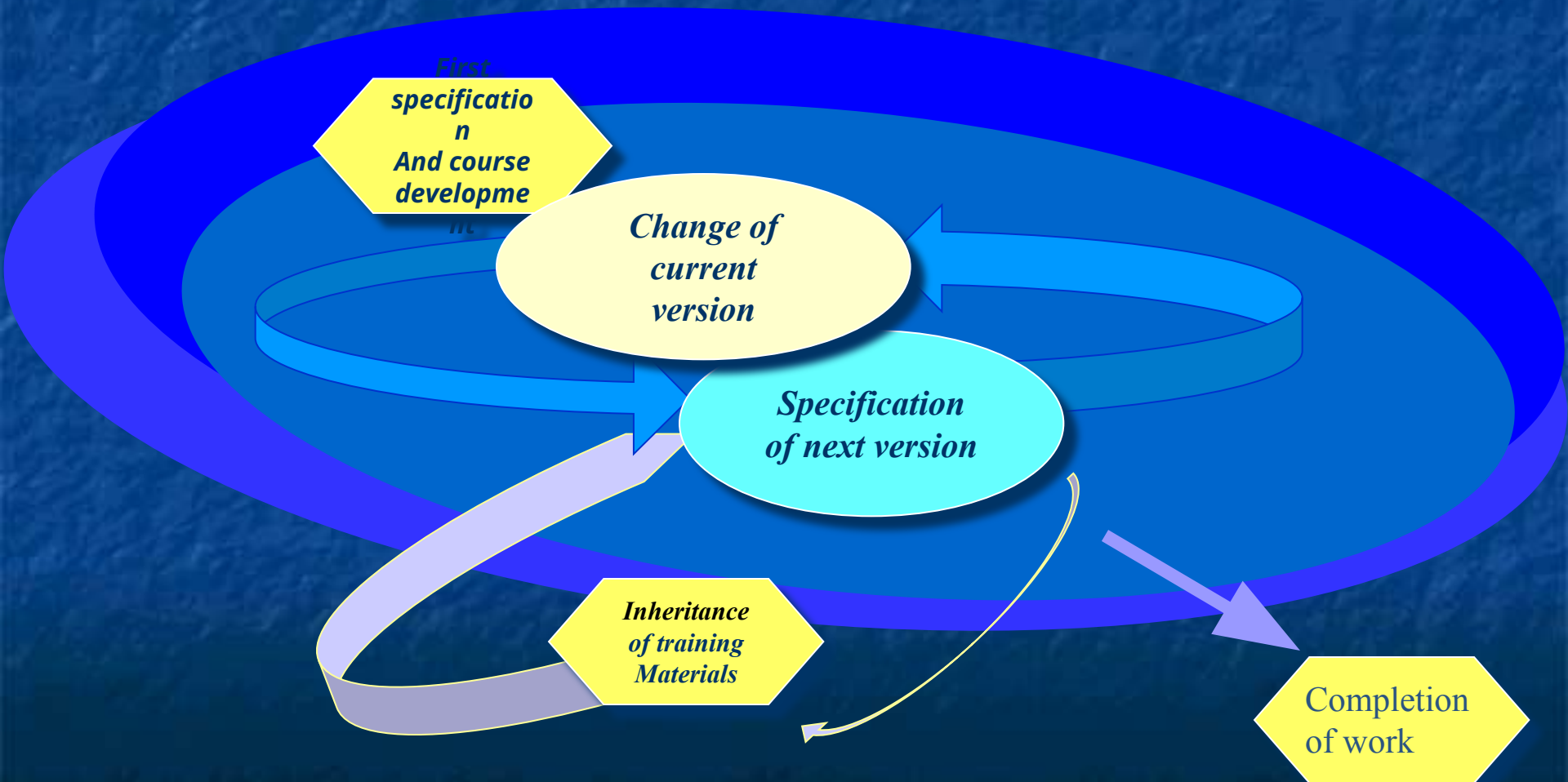
1. Find Pairs
2. Image Matching
3. Picture Matching
4. Crossword
5. Abbreviations
6. How do you say
7. Look and say
8. Match words to phrases
9. Multicombo
10. Compose sentence
11. Multiple choice
12. Listen. Fill in the blanks
13. Listen. Choose the answer
14. Listen. Compose the answer
15. Universal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

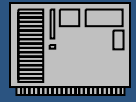
Extension of syllabuses :

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

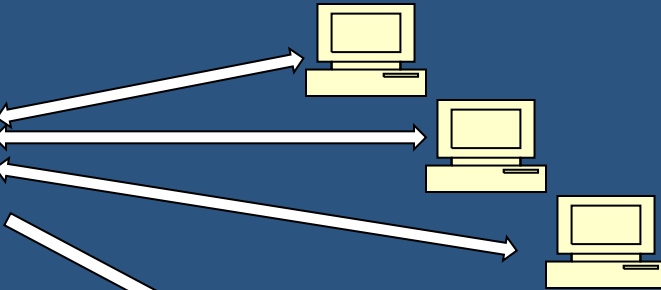
Course distribution



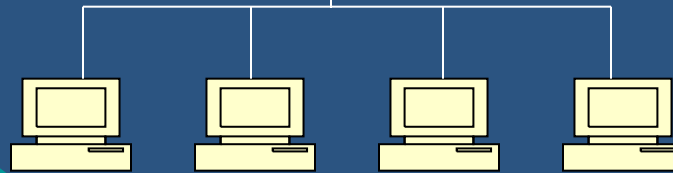
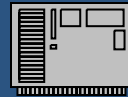
RDCC



On line



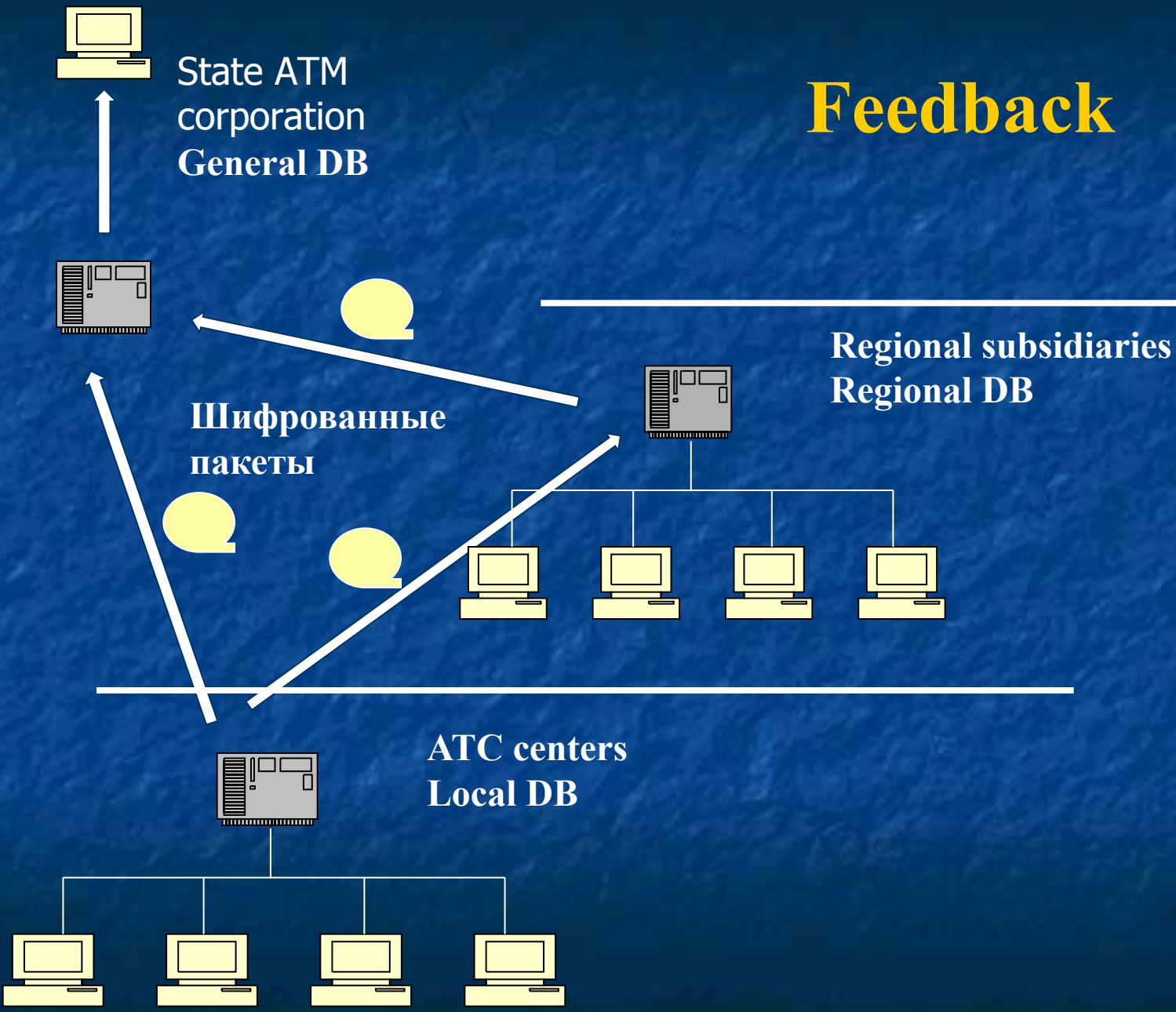
Local intranet



Offline



Feedback



Training results analyses system

Система сбора и анализа результатов

Файл Помощь

Тренажерная подготовка Теоретическая подготовка

Центры

Архангельск АУЦ

Включать подчиненные центры

Критерии выборки

Сектор Amd

Упражнение 1

Дата прохождения

С 04.02.2004 По 13.02.2004

Фамилия 1

Оценка 4

Таблица Графики

Номер	Фамилия	Имя	Отчество	Дата прохождения	Сектор	Упражн
1	1	1	1	04.02.2004	ARSOVME	1
2	Агафонов	Дмитрий	Вячеславович	10.02.2004	ARSOVME	1
3	Аникеев	Виктор	Иванович	10.02.2004	AR83NOV	2
4	Аникеев	Виктор	Иванович	04.02.2004	AR83NOV	2
5	Готов	Сергей	Николаевич	09.02.2004	AR83NOV	2
6	Данилов	Виктор	Николаевич	11.02.2004	AR83NOV	2
7	Данилов	Виктор	Николаевич	09.02.2004	AR83NOV	2
8	Данилов	Виктор	Николаевич	09.02.2004	AR83NOV	2
9	Заварзин	Артём	Витальевич	12.02.2004	Amd	1
10	Заварзин	Артём	Витальевич	09.02.2004	Amd	2
11	Заварзина	Ирина	Сергеевна	11.02.2004	Amd	1
12	Заварзина	Ирина	Сергеевна	10.02.2004	Amd	1
13	Заварзина	Ирина	Сергеевна	09.02.2004	Amd	2
14	Мошков	Леонид	Германович	12.02.2004	AR83NOV	2
15	Мошков	Леонид	Германович	09.02.2004	AR83NOV	2
16	Низовцев	Сергей	Николаевич	11.02.2004	AR83NOV	2
17	Низовцев	Сергей	Николаевич	06.02.2004	AR83NOV	2
18	Никитин	Анатолий	Петрович	10.02.2004	ARSOVME	1
19	Никитин	Анатолий	Петрович	04.02.2004	ARSOVME	1
20	Никитин	Анатолий	Петрович	04.02.2004	ARSOVME	1
21	Первый	П		13.02.2004	ARSOVME	1
22	Первый	П		13.02.2004	ARSOVME	1
23	Первый	П		12.02.2004	ARVOSTO	1
24	Сидорова	Любовь	Павловна	11.02.2004	AR263NOV	631
25	Сидорова	Любовь	Павловна	05.02.2004	AR263NOV	631
26	Широков	Владимир	Иванович	10.02.2004	AR83NOV	2
27	Ядченко	Александр	Сергеевич	11.02.2004	AR83NOV	2

Общее количество найденных записей - 28

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