PROJECT MANAGEMENT IN THE STATE SECTOR
Implementation of a Centralized Information System

Vladimíra ŽUFANOVÁ
Czech Office for Surveying, Mapping and Cadastre
Cadastral Office for South Moravia Region

Information System of Cadastre of Real Estates – The Origin

- Launch of ISCRE – september 2001 (version 2.5)
- System development – 24 versions (+ patch, minimum one after each upgrade 😊)
  - 2001: 2.5, 2.6
  - 2002: 3.0, 3.1, 3.2, 3.3
  - 2004: 4.0, 4.1, 4.2, 4.3, 4.4, 4.5
  - 2005: 5.0, 5.1 (Oracle 9, W2k), 5.2, 5.3
  - 2006: 5.4, 5.5
  - 2007: 5.6, 5.7
  - 2008: 5.7.7 (WinXP)
  - 2009: 5.8, 5.9
  - 2010: 5.9.5, 5.9.7
Information System of Cadastre of Real Estates – The Origin

- ISCRE
  - 109 local databases + 1 central database (+ 1 copy of central database)
  - nearly 5,000 users (employees in 14 Cadastral Offices, 107 Cadastral Workplaces, 7 Survey and Cadastral Inspectorates, Land Survey Office).
  - the system takes care of all aspects of the Cadastre administration
  - development dependent on structure of the system decision to switch over to a centralized system
    - 3 layers architecture
    - database Oracle 10g
    - Microsoft Internet Explorer v8, MicroStation V8i
Human resources

- Supplier – separate project team for ISCRE project
- COSMC – team of experts (a project leader, a principal consultant, a test leader, a member of quality team, consultants, testers and technical support)
  - separate/systemized job - the project leader, the principal consultant, the test leader
  - the participant on several projects - member of quality team, technical support
  - regular employees in Cadastral Offices or Cadastral Workplaces - consultants and testers

Planned schedule

- The milestones in the plan:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification of requirements (architecture, technology, HW)</td>
<td>January 07</td>
</tr>
<tr>
<td>Analysis (necessary changes, possible modifications)</td>
<td>December 07</td>
</tr>
<tr>
<td>Prototype (user interface, technology)</td>
<td>1Q 08</td>
</tr>
<tr>
<td>Supplier selection (public competition)</td>
<td>February 08</td>
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<tr>
<td>Prototype of solution</td>
<td>February 09</td>
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<tr>
<td>Practising of data migration</td>
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<tr>
<td>Testing of the functionality</td>
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<tr>
<td>Pilot run</td>
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<tr>
<td>Verifying activity</td>
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<tr>
<td>Data migration and ISCRE startup</td>
<td>2.3.2010</td>
</tr>
</tbody>
</table>
Process of work – Testing of the functional

- Analysis included
  - 55 necessary changes
  - 62 possible modifications.
- 7 periods of testing
  - Each period included implementation of changes, testing, evaluation and maintenance
  - Necessity of increasing the number of testers (6→)
- The testing runs on the data, which was created from backup of real data

Process of work – Verifying run

- Complete training of data migration - first half of 2011
  - from 109 local databases into one central database
  - the training was carried out with the real data – impact to all Cadastral Workplaces (interruption their service)
  - migrated data were used for verifying runs
- Verifying run
  - the first round: from 10.3. to 31.5.2011, the second round: from 4.7. to 28.7.2011
  - approx. 120 users (18 CW)
  - simulation of providing service parallel with the real service
Process of work – Stress testing

- The goals
  - the common operation would perform in seconds
  - the software does not crash in unusually high concurrency.
- 2 types of tests
  - the automatic stress tests (automatic generation of a large number of changes)
  - the user stress tests (23 types of procedure)
- All the Cadastral Workplaces were involved in login test
  - fundamental problem in login more than 2000 users
  - repeating test in 5 dates, one to four times repetition in the date

Process of work – Data migration and system launch

- Based on the results of the testing, verifying runs and stress tests - a decision to launch migration. The schedule:

<table>
<thead>
<tr>
<th>Decentralized ISCRE</th>
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</thead>
<tbody>
<tr>
<td>Exit of using ISCRE</td>
<td>Thu 11.8.2011, 15:00</td>
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<tr>
<td>Creation of printouts for verifying (property sheets, statistics)</td>
<td>Thu 11.8.2011, 16:30</td>
<td></td>
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<tr>
<td>Start data migration</td>
<td>Thu 11.8.2011, 20:30</td>
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<tr>
<td>Centralized ISCRE</td>
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<tr>
<td>Launch ISCRE</td>
<td>Sat 13.8.2011, 06:30</td>
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<tr>
<td>Creation of printouts for verifying (property sheets, statistics)</td>
<td>Sat 13.8.2011, 08:30</td>
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<tr>
<td>Decision on successful migration</td>
<td>Sat 13.8.2011, 12:30</td>
<td></td>
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<tr>
<td>Migration of remote access</td>
<td>Sat 13.8.2011, 12:30</td>
<td></td>
</tr>
<tr>
<td>Decision on using centralized ISCRE</td>
<td>Sun 14.8.2011, 18:30</td>
<td></td>
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<tr>
<td>ISCRE come into operation</td>
<td>Mon 15.8.2011, 06:00</td>
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</tbody>
</table>
Process of work – Data migration and system launch

• The verification
  – manually comparing printouts from decentralized and centralized system
    (1% printouts of property sheets)
  – carried out by employees of CW
  – the checking detected several errors – repairation of the system

• The decision on using centralized ISCRE published on Monday 15.8.2011, 1:30 am.

Product Training

• Each step in the project was accompanied by training of users
  – before testing of the functional – provided on a central level (approx. 120 users)
  – before verifying run – provided on a central level
  – before launch centralized ISCRE – two levels
    • training of trainers from Cadastral Offices by consultants
    • training of end users by trainers
Conclusion

- The project management in the state sector has own specifics
  - strict conditions of financing, procurement and ordering services,
  - limited options to obtain human resources
- The project to centralize ISCRE:
  - enormous number of people involved in
  - need of minimum impact on the public sector and providing standard services.
- The project would not have been successful without the extraordinary activity of employees in testing, pilot runs, stress tests, and verification of data
- The implementation of centralized ISCRE was finished in August 2011, more than one year after planned date - the debugging of the system run till the end of 2011

Thank you for your attention