

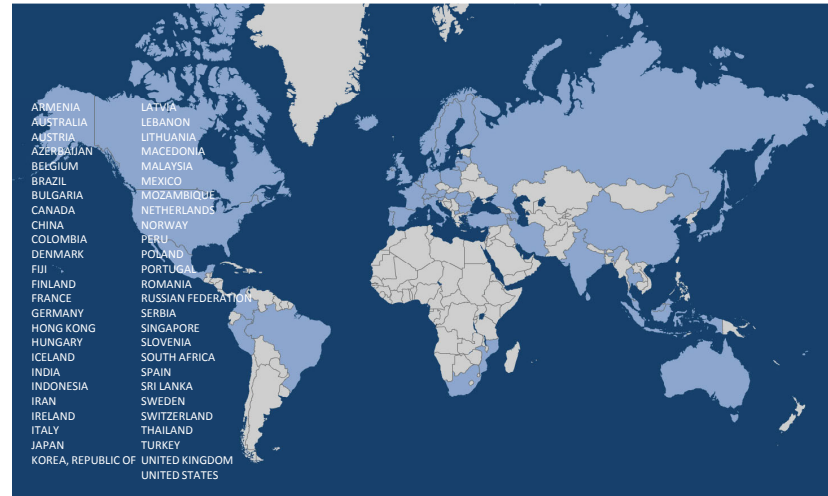
BoF-PSS2 Situation today

Bank of Finland
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Bank of Finland
PAYMENT AND SETTLEMENT SYSTEM SIMULATOR

BoF-PSS2 Simulator Diffusion (Aug 2010)



The seventh full year of BoF-PSS2

- 80 external sites per 14 August 2009
 - 64% in central banks, 23% in academic institutions, the rest in ACH's, CSD's, ECB, BIS, ...
 - Some new users, active interest in use of the tool
 - Eight simulator seminar for the user community
- Production version 2.4.1 since Autumn 2009
 - Next version 3.0.0 is ready to be released
 - Software is available as research tool free of charge
- BoF-PSS2 requires MySQL database with commercial license
 - Additional licenses available from BoF - at least until end of 2010

The product, community and results grow nicely



Recent developments

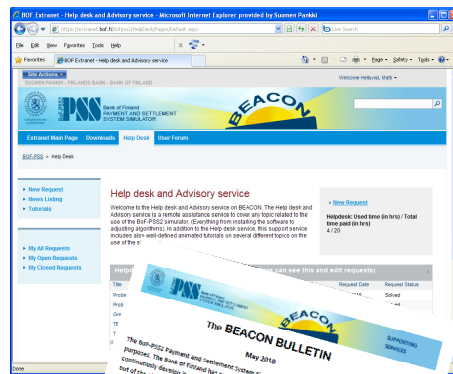
- **TARGET2 simulator project**
- **Improvement of internet pages and integration with extranet**
- **Launch of Help desk service**
- **Development of the reports library concept in co-operation with BoF oversight**

The simulator activities have been selected to become a potential main cooperation and focus area of BoF



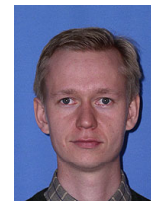
Idea of the support services

- Help the users of the BoF-PSS2 to get the best possible benefit from the tool
- Allow BoF to accumulate sufficient knowledge and pool of experts capable of providing such support



BoF Simulator development team

- Development of the simulator, support and services
- Over 12 years of working experience on quantitative tools for analysis of payment and settlement systems
- 1 PhD, 3x MSc, 1 MBA, 1 BSc, 2 engineers, 1 economist and 1,5 computer scientists...



Matti



Kasper



Tatu



Markus



Ongoing co-operation with original developers of BoF-PSS2

Available cost-based support services

- Help desk and advisory service (service level guarantee)
- Training (basic and/or advanced user training)
- Consultation (modelling, analysing)
- Analysis (complete simulation studies and analyses)

Reports library tool under development



TARGET2 simulator

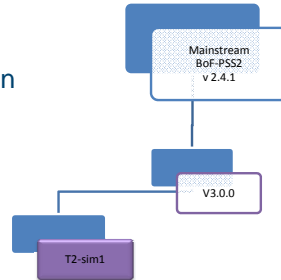


- Dedicated tool developed for overseers and operators of TARGET2 system
 - Replicates genuine features of TARGET2's settlement process
 - Uses detailed transaction level data set of whole TARGET2 system
 - Used remotely from secure and centralised facility
- Jointly provided by Deutsche Bundesbank, Banque de France, Banca d' Italia and Bank of Finland



BoF-PSS2 in TARGET2 simulator

- Separate version of BoF-PSS2 has been developed for TARGET2 simulator
 - Specific algorithms, processes and transaction types
 - Partially closed source code due to IPR restrictions
 - Available only in T2-simulator
- However, T2-simulator is based on new version of mainstream BoF-PSS2 (v 3.0.0)
 - Foundations for the specific features are implemented in the generic and non restricted simulator



New features in version 3.0.0

Facilities implemented to support

...simulation of liquidity reservations

- Imports, exports, statistics and data structures in simulations

...simulation of timely parallel events

- Calibration for the duration of e.g. algorithm runs
- Time estimation algorithm type

...new system event handler algorithm type

- Allows system dependent event processing rules in simulation

- Additional utility tools (available in help desk service)

- Account pooler, Pajek converter for network analysis output



New features in version 3.0.0 continued

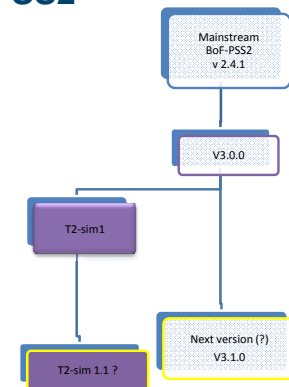
- Generalised system setup possibilities
 - Multiple algorithms of same type are allowed
 - Different parameterization for same logic intraday, intracycle, ...
- Updated database structure
- Process log database table
 - Recording of simulation execution details
- Performance improvements
 - Faster processing due to multithreading of DB processes
 - Lower memory consumption
- Microseconds in time labels (0.000001 sec steps)



Big potential for new features to be used and more widely implemented in mainstream BoF-PSS2

Synergies between TARGET2 simulator and generic BoF-PSS2

- Shared support resources
- Developments in either version may benefit both
- Long term commitment to support and develop the tool



Looking forward

- Development of the support services
 - Analysis pilot project starting
 - Implementation of the reports library
- Proceedings publication from the 2009-2010 seminars
- Focus points of further development of BoF-PSS2
 - Improvements in usability
 - Improvements in transparency
 - Implementation of features enabled in v 3.0.0



*Feedback from users and joint projects
will steer the development*