

TransGen development project - update

We are now entering the second half of our 2-year multi-client project to extend the functionality of the TransGen software. TransGen is our Unix & Linux-based application for generating fault transmissibility multipliers for Eclipse and several other reservoir simulators, developed in partnership with the [Fault Analysis Group](#) at University College Dublin

TransGen is the first industry software package designed to assign fault properties using geologically-driven methods and together with the developments arising from the project and other Fault Analysis Group research, we are confident it will maintain a significant technical lead.

Originally released in 1999, TransGen extracts geological data from Eclipse models, uses empirical relationships to predict fault properties, visualises the properties in a 3D viewer, and exports the results in Eclipse format (as a file of transmissibility multipliers for every faulted connection in the model). Typically the entire calculation only takes a few minutes. Current TransGen functionality is described [on our website](#).

TransGen can also read in Eclipse restart files to show dynamic cell and fault properties in the context of the 3D fault views.

The current development project was brokered by ITF in Aberdeen, and the project sponsors are **Petrobras, Shell (UK)** and **Statoil**. The project will develop beyond our existing capabilities (which determine fault transmissibility multipliers as a function of fault-rock thickness and single-phase permeability) to develop a suite of methods for the incorporation of fault-zone geometries and two-phase fault-rock properties in reservoir flow simulators. The methodologies are being complemented by research that examines the calibration of fault property and geometry predictors to dynamic reservoir flow information.

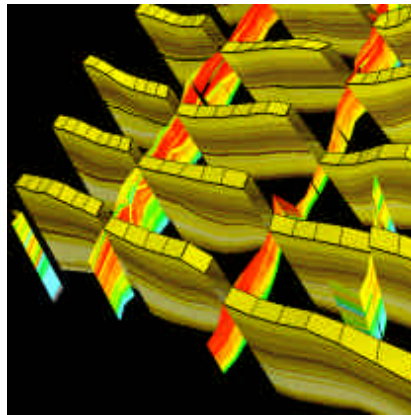
Specific work tasks in the project are:

- (i) Improved flexibility in fault-rock property assignment.
- (ii) Routine inclusion of sub-resolution fault-zone structure.
- (iii) Routine inclusion of two-phase fault-rock properties.
- (iv) Calibration of algorithms against reservoir production data.

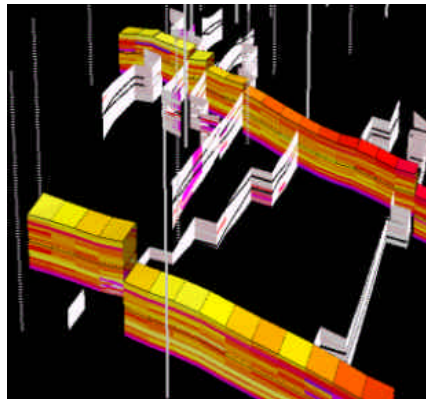
Task (i) has already been completed, and a beta-release of TransGen-3 has been provided to the project sponsors.

This provides improved flexibility in fault-rock property assignment including the full range of shale smear type algorithms (Clay Smear Potential, Shale Smear Factor, Shale Gouge Ratio) and features permitting the inclusion of cataclastic sandstone fault rocks and damage zones. The software also allows users to write their own 'plug-ins' to define user-specific algorithms for fault-seal potential. Current work is focussed on sub-resolution structure (e.g. relays, drag zones) and two-phase flow.

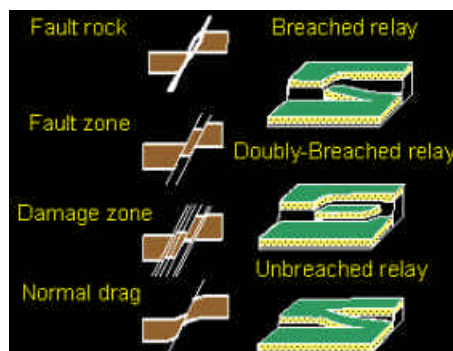
It is not too late to take part in these exciting developments. If your company wishes to take advantage of this leading-edge technology before general release of the new software to the market,



Fault properties, in this case transmissibility multiplier, can be visualised in the TransGen 3D viewer.



Across-fault flow from an ECLIPSE Restart file, visualised within the TransGen 3D viewer.



the partners are willing to accept new sponsors to the project. Additional funding would enhance the functionality of the final product. Please [contact us](#) for further information

Current work on TransGen 3 aims to resolve 2-phase flow problems and sub-resolution (model and seismic) structure as illustrated above.



Sunset over Lincoln (Photo courtesy of Mike Badley)

Software support over the festive season

We would like to wish you all a happy holiday season and we look forward to working with you all again for a happy and prosperous new year.

For those who intend to use our products over the Christmas period there are special arrangements for support.

Our office is officially closed 25th and 26th December 2003 and during the New Year period (29th, 30th, 31st December 2003 & 1st January 2004). During this time we will be offering an e-mail only service. Please contact us at support@badleys.co.uk.

Patch 8.0 available now

The latest software patch (5.108) is available now from our ftp site. For further information on installing or downloading patches please [contact us](#) for more details.

This latest patch fixes an IRIX well import problem and an intersection modelling bug on all platforms. We are expecting this to be the last patch issued prior to the release of the new version of the software scheduled for Q1 2004.

*Geoscience News edited by Stephen Dee
Designed and produced using Unite-IT from Badley Technology Ltd.*

Badley Geoscience Ltd.

info@badleys.co.uk

Tel: +44(0)1790 753472

Fax: +44(0)1790 753527

www.badleys.co.uk



To Unsubscribe to this newsletter please [click here!](#) and send us a message with UNSUBSCRIBE in the title.