Questions for software suppliers about positional accuracy transformations

1. What is the underlying geometric function used to move data (for example, rubber sheeting, affine or triangulated irregular network)? What accuracy of transformation is it expected to achieve?
2. What process is typically used to move data (fully automatic, automatic with manual options)?
3. Does the software place a limit on the number of points used in:
   - the Ordnance Survey link file to define a transformation; or
   - the user data layer?
4. Does the software allow for defining the distance of the effect of shift at control points on each other?
5. Does the software allow the data area to be transformed to be defined?
6. Does the software allow old and new data be displayed in their correct relative positions (that is, old user data over old Land-Line® and shifted user data over new Land-Line) to judge the quality of transformation?
7. Does the software have a batch option that enables large numbers of tiles (layers) to be processed automatically?
8. In terms of geometric fidelity, how well does the software retain the shape of polygons and linework (for example, right angles). How can features which are outside of tolerance be adjusted?
9. Typical user experiences with the software:
   - What proportion of features are moved to their new position without user intervention?
   - What process is used to move features that are not moved successfully by the software. How much work does this typically involve?
10. Are references available from current users of the software?

Users can test the quality of transformation by:

1. Shifting artificial test data (for example, features known to be square). Old and new shapes and areas can be compared. This will enable the differences between transformations applied by different software packages to be assessed, but will by itself not enable the quality of software transformation to be assessed as the link files supplied by Ordnance Survey may themselves be causing geometric distortion.
2. Using a random sample of (say) 75% of the points in the link file to determine the transformation parameters. The remaining 25% of points can be entered as test data. The transformed points derived from the transformation algorithm can be compared with the known points provided in the link file.

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