Release notes for TrueGrid version 3.1.2

1. The new command TRACT in the merge phase assigns traction to face sets.

TRACT FSET set_name load_curve_# amplitude xn yn zn

This is a load that will apply to models built for LS-DYNA, ANSYS, ABAQUS, and NASTRAN.

2. The abaqstep command, used to associate conditions to different analysis steps in the simulation, has a new option to make an association of traction to an analysis step. That option is:

ABDSLOAD BLC load_curve_# TRACT ;

3. The LSDYNA material 72 has been replaced with 72REL3. Since LSDYNA has dropped material 72, so has TrueGrid. If anyone is using an older version of LSDYNA with material 72 (the obsolete material model), please let XYZ Scientific Applications know so that we can continue supporting it.

This new version has the following parameters:

PR ratio - Constant Poission's Ratio Model
FT strength - Unixial tensile strength
A0 failure - Maximum shear failure surface parameter a0
A1 failure - Maximum shear failure surface parameter a1
A2 failure - Maximum shear failure surface parameter a2
B1 factor - Damage Scaling Factor
OMEGA dilatancy - Fractional dilatancy
A1F failue - Pressure Hardening Coefficient for Failed Material
SL factor - Lamda stretch factor, s
NOUT strain - Effective plastic strain selector
EDROP decay - Post peak dilatancy decay
RSIZE factor - Unit conversion factor for length
UCF factor - Unit conversion factor for stress
LCRATE load_curve - Load curve for strain rate effects
LOCWID length - 3 X max aggregrate diameter
NPTS #_points - Number of points in l v.s. n damage
L01 value - 1st value of damage function
L02 value - 2nd value of damage function
L03 value - 3rd value of damage function
L04 value - 4th value of damage function
L05 value - 5th value of damage function
L06 value - 6th value of damage function
L07 value - 7th value of damage function

L08 value - 8th value of damage function
Lo9 value - 9th value of damage function
L10 value - 10th value of damage function
L11 value - 11th value of damage function
L12 value - 12th value of damage function
L13 value - 13th value of damage function
B3 coefficient - Triaxial tension damage coefficient
A0Y yield - Initial yield surface coefficient A0Y
A1Y yield - Initial yield surface coefficient A1Y
N01 factor - 1st value of scale factor
N02 factor - 2nd value of scale factor
N03 factor - 3rd value of scale factor
N04 factor - 4th value of scale factor
N05 factor - 5th value of scale factor
N06 factor - 6th value of scale factor
N07 factor - 7th value of scale factor
N08 factor - 8th value of scale factor
N09 factor - 9th value of scale factor
N10 factor - 10th value of scale factor
N11 factor - 11th value of scale factor
N12 factor - 12th value of scale factor
N13 factor - 13th value of scale factor
B2 exponent - Tensile damage scaling exponent b2
A2F coefficient - Residual failure surface coefficient A2F
A2Y coefficient - Initial yeild surface coefficient A2Y

4. The output data created using the VERBATIM command for keyword LS-DYNA has been moved in the output file. It now appears after the material models.