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Recent PLS-CADD Developments

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by

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Operating Systems

- Windows Vista
  - Supported in version 8.16 and newer
  - Required file and folder location changes
- Windows 7
  - Tested with beta version 10.14
  - No changes required relative to Vista

Why a 64 bit PLS-CADD?

- Ever increasing LiDAR point density
- Filtering points takes time & training
- Over aggressive filtering results can result in accuracy loss
- Breaking project into multiple pieces is inconvenient and reduces productivity
- New users struggle with tricks to get around memory limits
- Out of memory errors responsible for significant portion of program crashes

32 bit PLS-CADD Point Limits

- Theoretical limits
  - Based on largest contiguous memory block
  - 16 M points on Windows XP
  - 34 M points on Windows Vista
- Reality
  - PFL and TIN consume memory
  - Can start to have problems at half above figures

64 bit PLS-CADD point limits

- Theoretical- over 2 billion points (2^31)
- Reality
  - Performance intolerable if do not have sufficient RAM
  - Practical limit is 10-20 M points per GB RAM
  - 48 GB machines readily available (500M-1G points)
  - 200M points quite manageable in 24 GB

64 bit PLS-CADD performance issues

- Delays increase with number of points
  - File Open/Save
  - Drawing survey points
  - Searching for point closest to mouse
  - Calculating terrain stations and offsets
  - Generating vegetation & clearance reports
- Major changes required to preserve responsiveness when working with order of magnitude more points.

What about 32 bit PLS-CADD users?

- Expect to continue producing new 32 bit versions for foreseeable future
- 32 & 64 bit built from same source code
  - 32 bit has same features
  - 32 bit has same performance improvements
  - 32 bit uses same file format
    - 32 bit can read 64 bit files if 32 bit memory constraints are not exceeded