

Windows PC

UI VI

UI Event Handler &
Send Configuration

UI Update

Control Config (tag)
Fan Speed Setpoint (tag)
New FPGA State (tag)
Max Fan Speed (tag)
Max Accel (tag)

Max Accel (tag)

Max Accel (tag)

Acceleration (grms) (tag)
Acceleration Waveform (g) (tag)

Current FPGA State (tag)
Actual Fan Speed (RPM) (tag)
DMA FIFO overflow? (tag)
PID Loop Period (tag)
CPU Usage (tag)
Free or Contiguous Memory (tag)

NI CompactRIO

RT VI

Update PID Settings

Analyze Acceleration

Log Data

System Health &
FPGA Monitoring

Control Config (tag)
Fan Speed Setpoint (tag)
New FPGA State (tag)
Max Fan Speed (tag)
Max Accel (tag)

Acceleration (g) (stream)

Acceleration Waveform (g) (stream)

Acceleration Waveform (g)

Current FPGA State (tag)
Actual Fan Speed (RPM) (tag)
PID Loop Period (tag)

DMA FIFO overflow? (tag)

FPGA VI

Fan Speed PID Control

Acquire Signals

Fan Speed (tag)
Max Accel Exceeded?(tag)

