Άσκηση 2
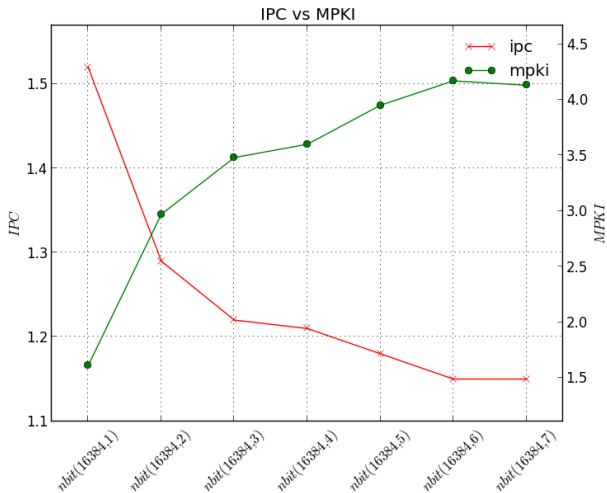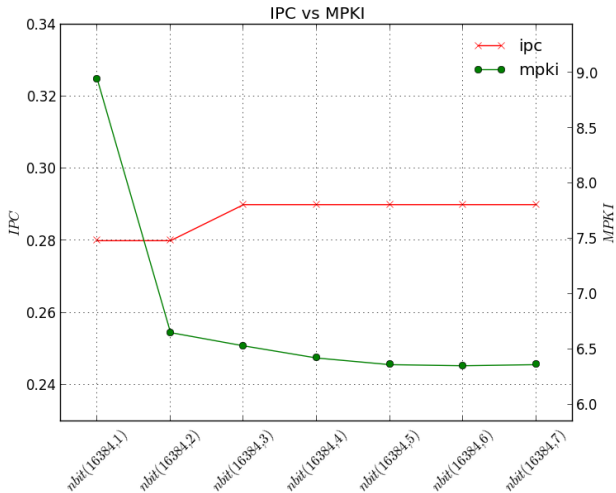
Branch Predictors
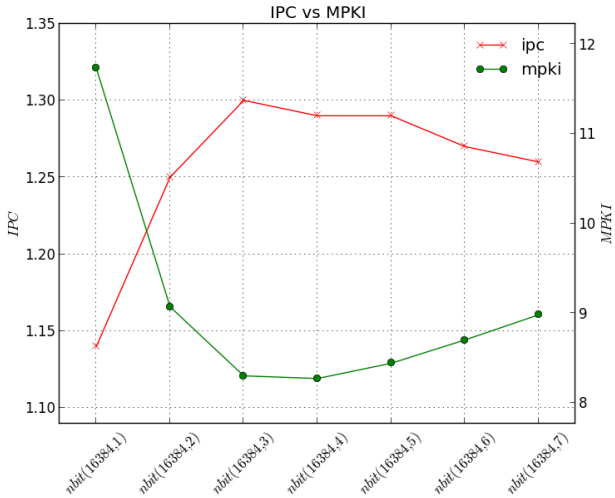
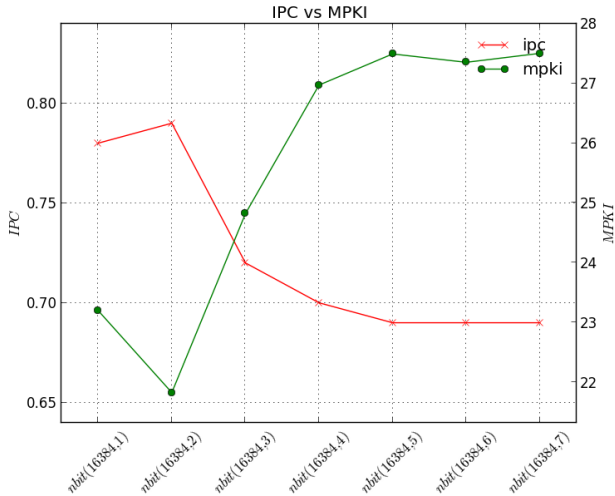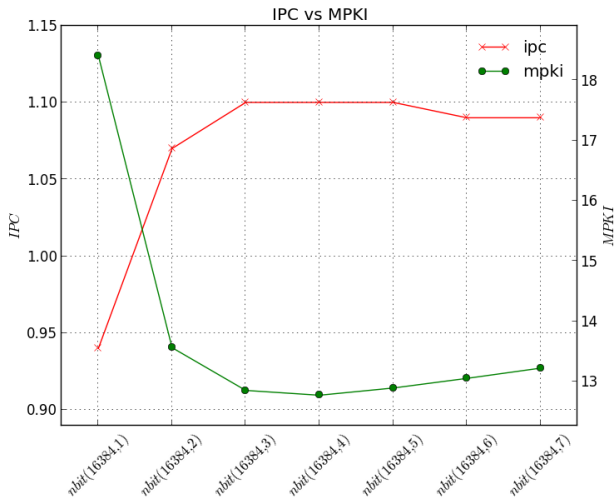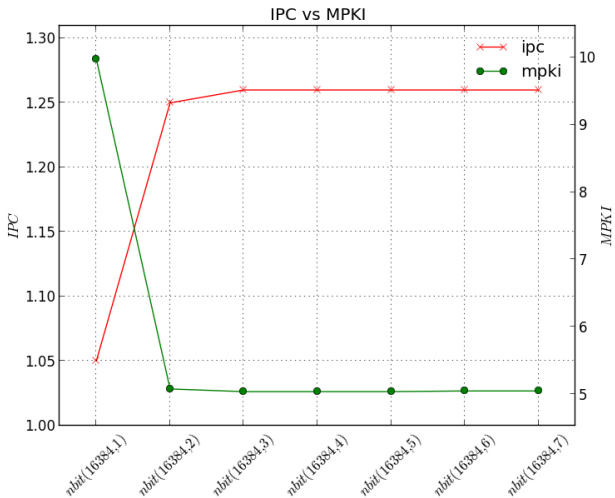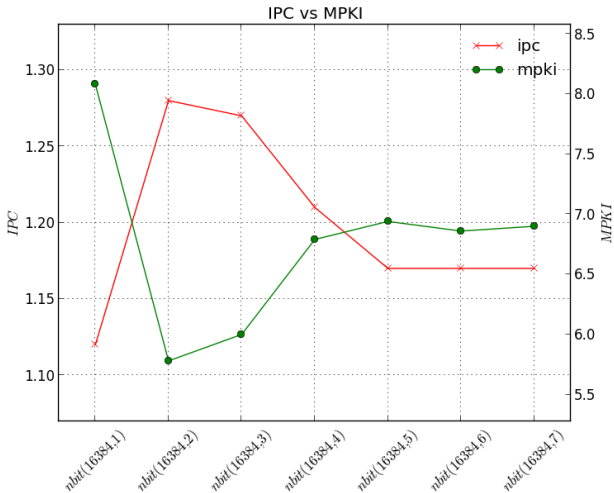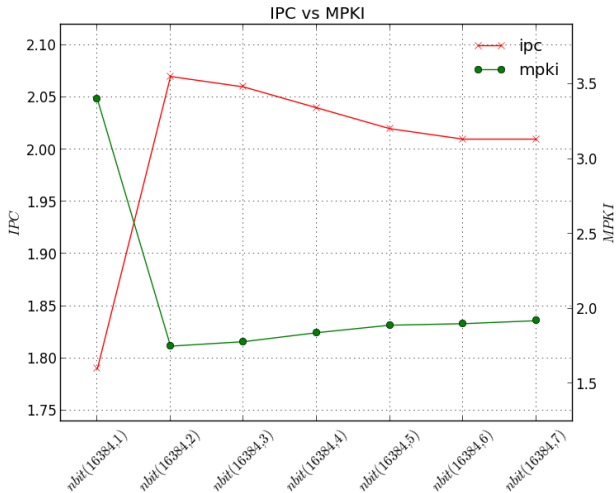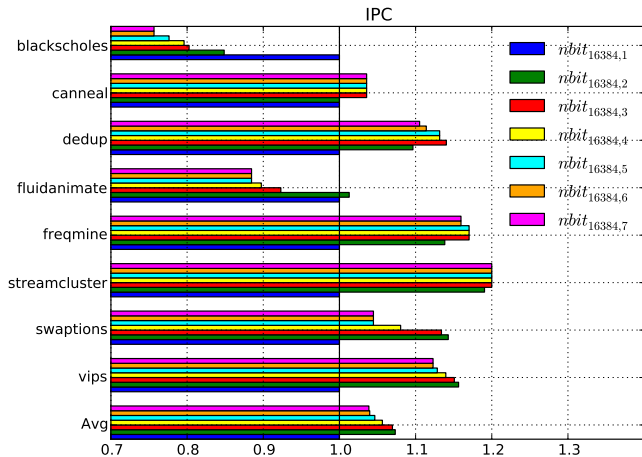# blackscholes

canneal

dedup

fluidanimate

freqmine

streamcluster

swaptions

vips

N-bit predictors

N-bit predictors

MPKI

Legend:
- $nbit_{16384,1}$
- $nbit_{16384,2}$
- $nbit_{16384,3}$
- $nbit_{16384,4}$
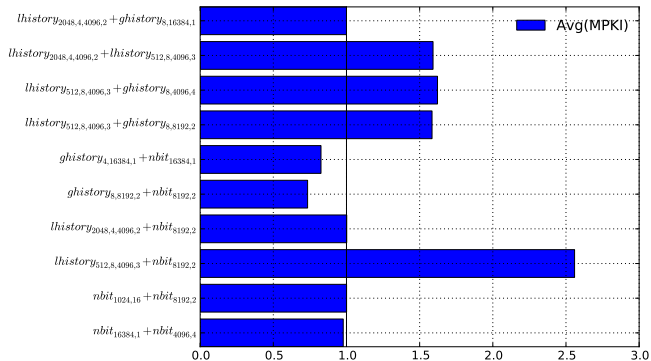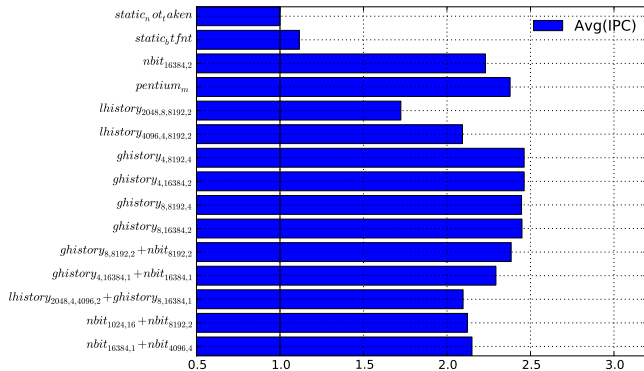- $nbit_{16384,5}$
- $nbit_{16384,6}$
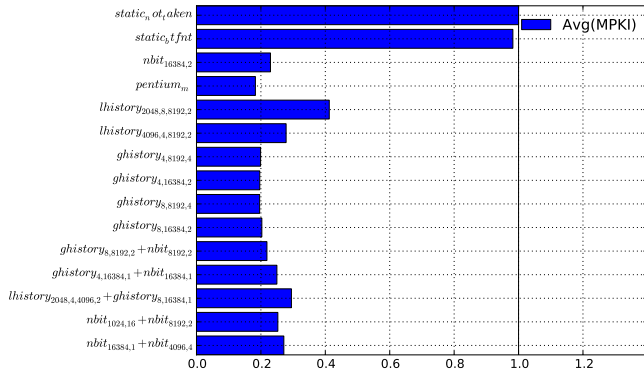- $nbit_{16384,7}$

Tournament predictors

Tournament predictors
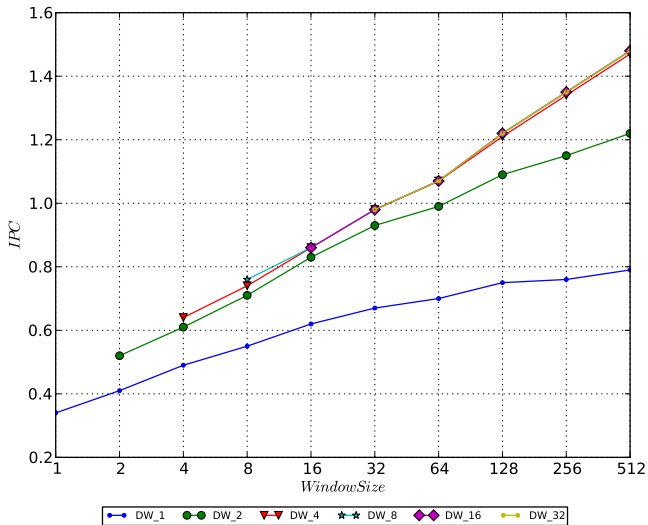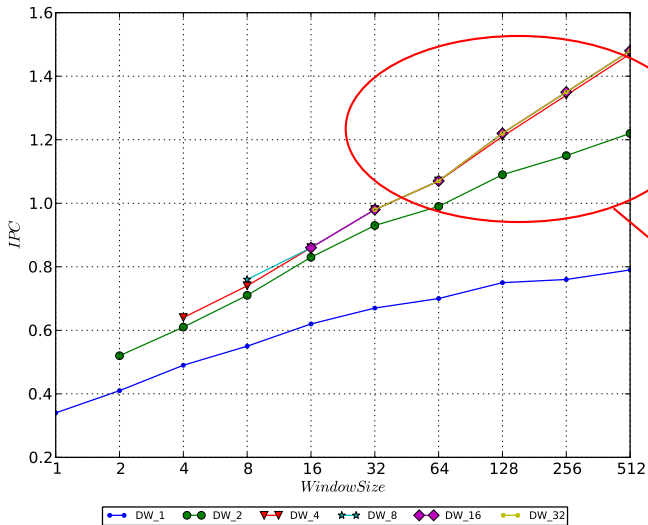
All predictors

All predictors

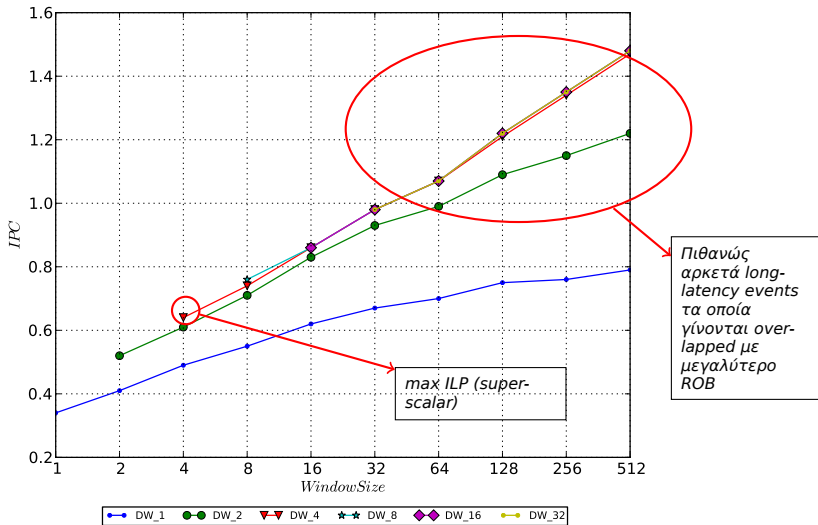# Dispatch width / Window size

blackscholes(test)

blackscholes(test)

blackscholes(test)

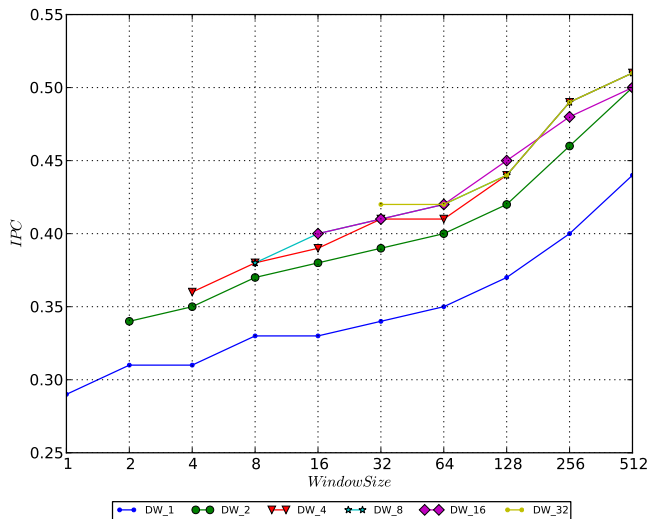*Πιθανώς αρκετά long-latency events τα οποία γίνονται over-lapped με μεγαλύτερο ROB*

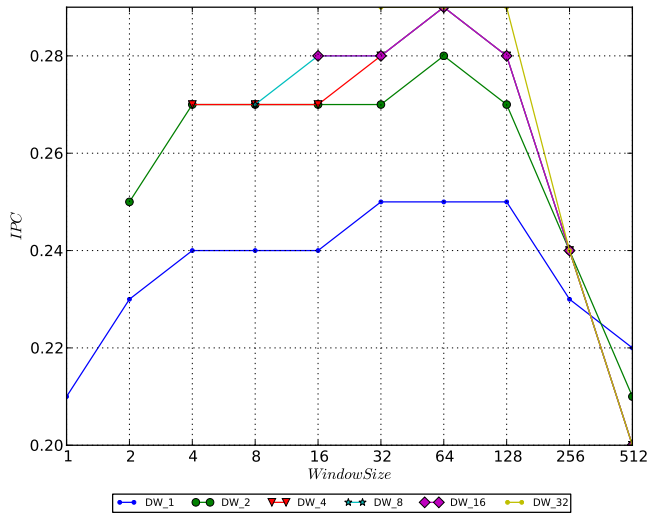*max ILP (super-scalar)*

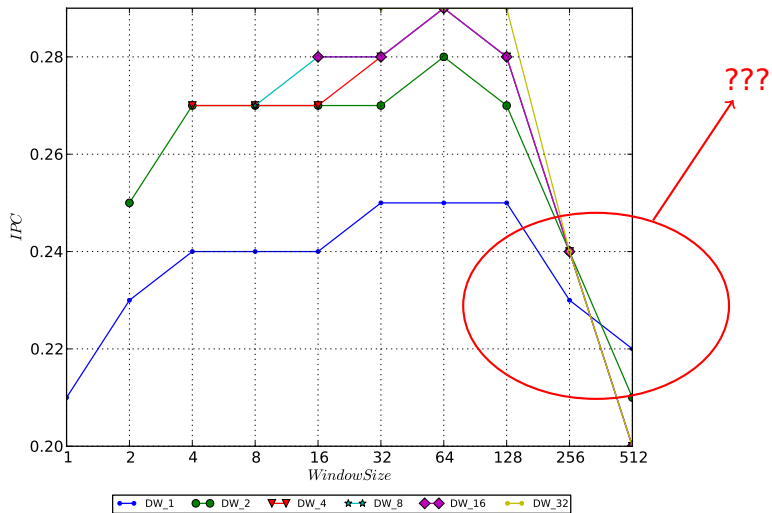Legend: DW_1, DW_2, DW_4, DW_8, DW_16, DW_32
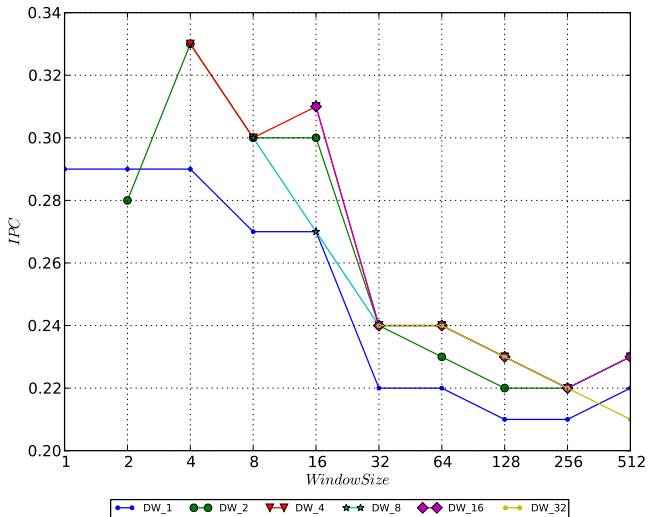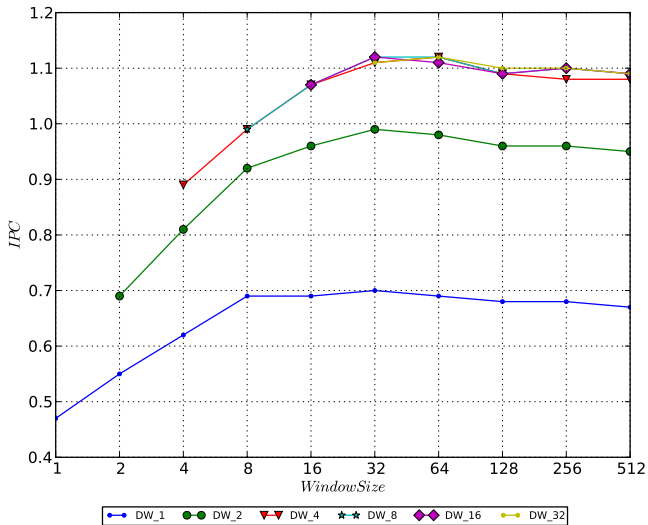
blackscholes(small)

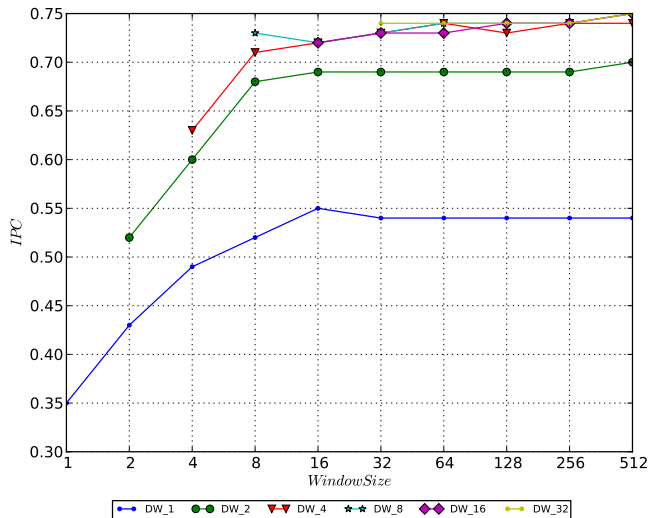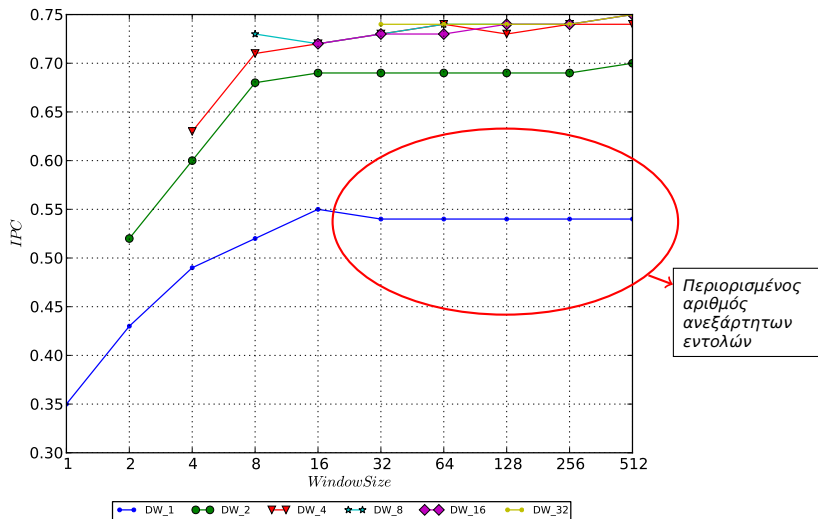# canneal(test)

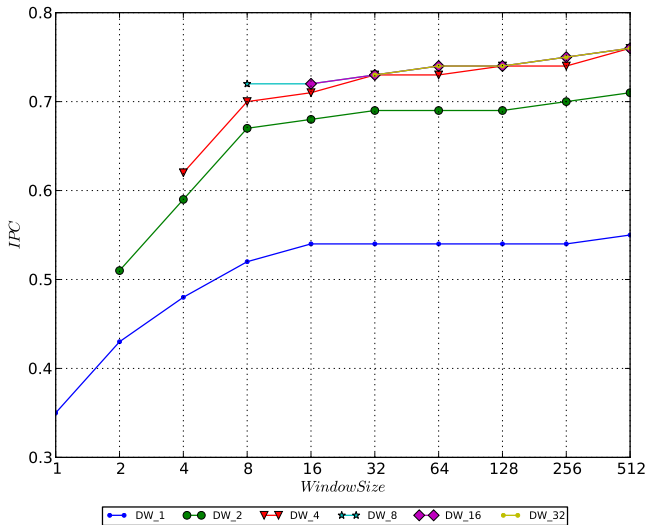canneal(small)

canneal(small)
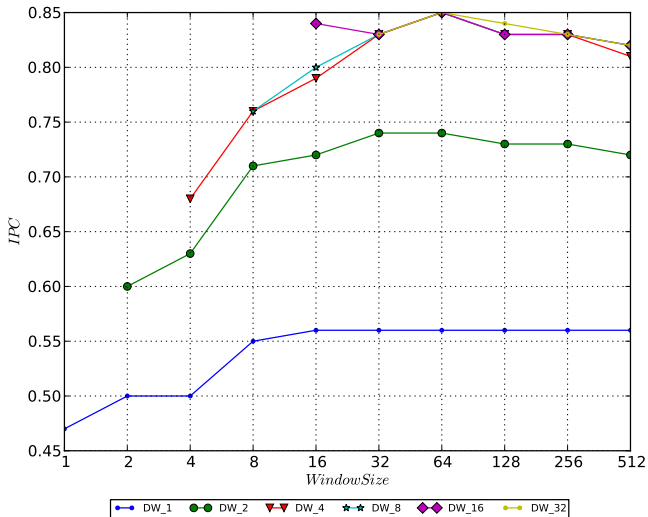
dedup(test)

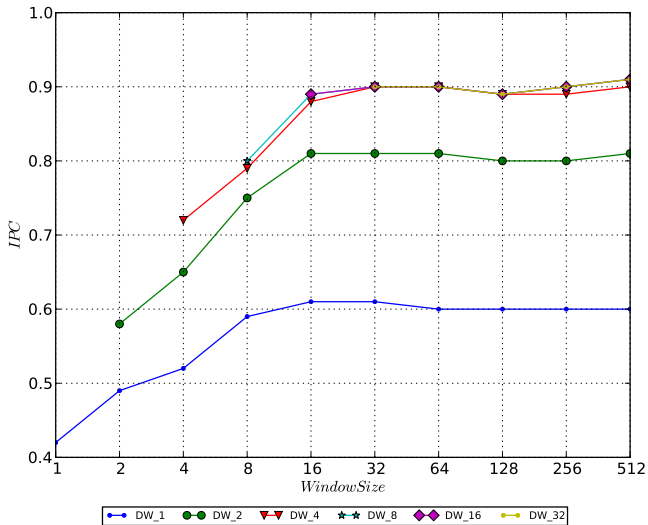# dedup(small)
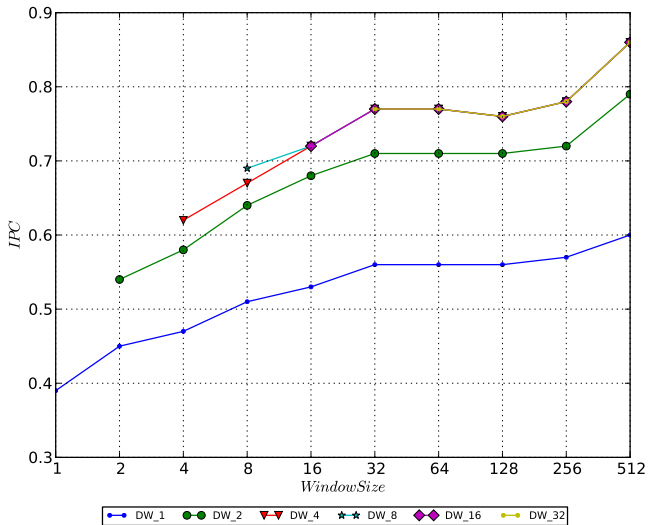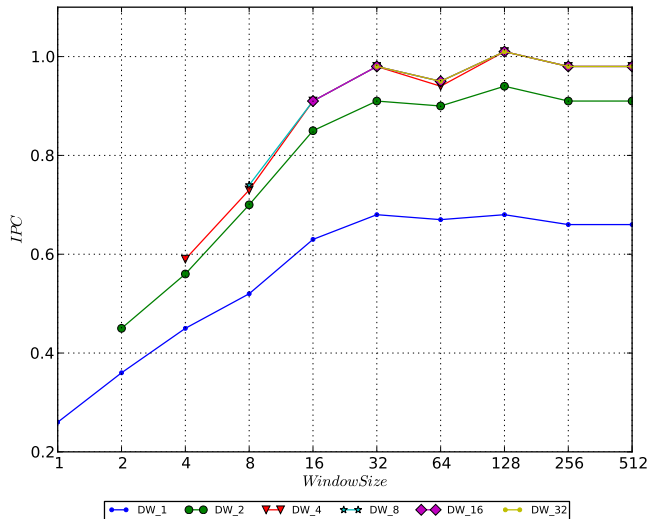
fluidanimate(test)

fluidanimate(test)

fluidanimate(small)

freqmine(test)
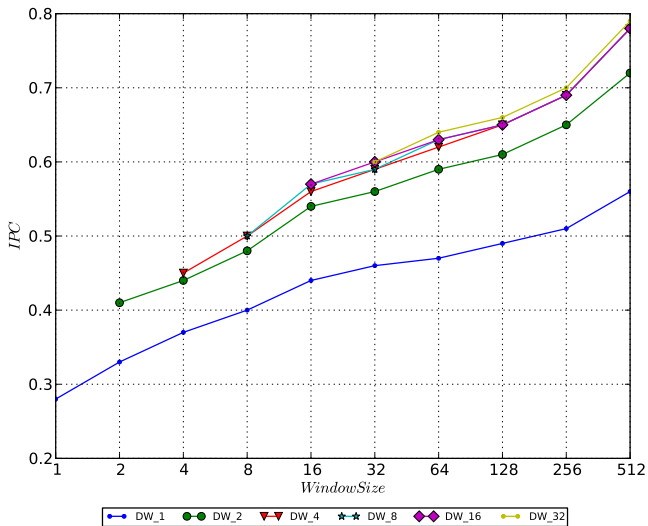
cslab@ntua 2013-2014

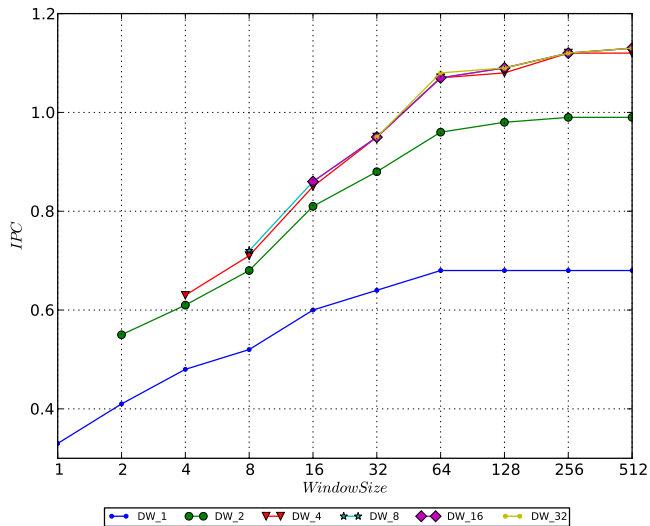# freqmine(small)

streamcluster(test)
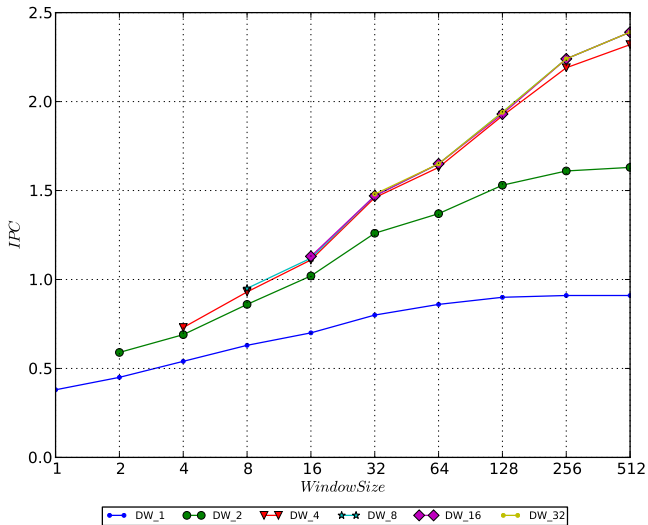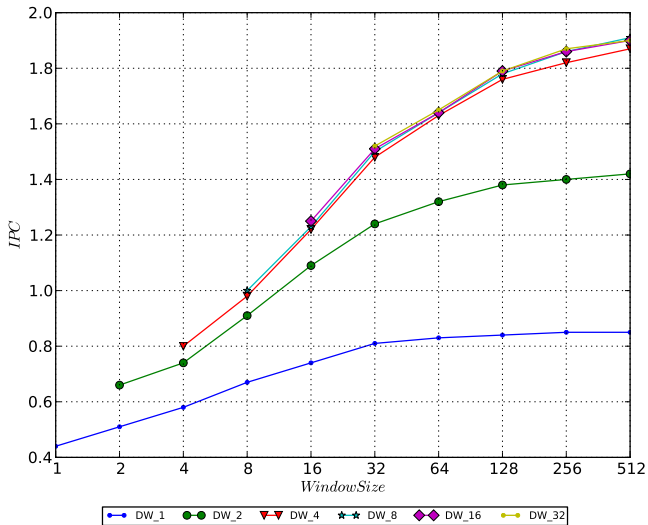
streamcluster(small)

swaptions(test)

swaptions(small)

vips(test)

vips(small)

Intel processors

Nehalem (2008) -- 45nm
- Dispatch_width = 4
- Window_size = 128

Sandy Bridge (2011) -- 32nm
- Dispatch_width = 4
- Window_size = 168

Haswell (2013) -- 22nm
- Dispatch_width = 8
- Window_size = 192