pendent Unit (DDU) Cards
centrator Card (DCC)
718 VME Crate Controller
ectronic boards in total
GA, including ~1000 mezzanine FPGA

FPGA MEZZANINE UPGRADE

Xilinx Virtex FPGA Families

Xilinx Family	Virtex	Virtex-E	Virtex-2	Virtex-4	Virtex-5
Year	1999	2000	2001	2004	2006
Technology	220 nm	180 nm	130 nm	90 nm	65 nm
Core power	2.5V	1.8V	1.5V	1.2V	1.0V

Advantages of Virtex-5:

- Higher performance due to 65nm technology
- More flexible basic slice (4 LUT + 4 Flip-flops)
- Better clocking routing
- More embedded memory
- Four sub-families:
  - General purpose LX
  - Serial connection oriented LXT
  - Signal processing oriented SXT
  - Embedded applications oriented FXT
- Potential ability to self-correct single event errors and detect double errors using the Internal Configuration Access Port

Disadvantages:

- Less user input/output pins available for similar packages (compare with Virtex-2)

Package	27 x 27 mm FG676/FF676	35 x 35 mm FF1152/FF1153
User i/o, Virtex-2 XC2V1500/2000/3000	392/456/484	
User i/o, Virtex-5 XC5VLX30/50/85/110	400/440/440/440	
User i/o, Virtex-2 XC2V4000/6000/8000		824/824/824
User i/o, Virtex-5 XC5VLX50/85/110		560/560/800

Conclusion:
- ~50% perfo
- Sorting "4 the fastest
- Pin compa solution (lo

MEZZANINE GIGABIT LINK

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