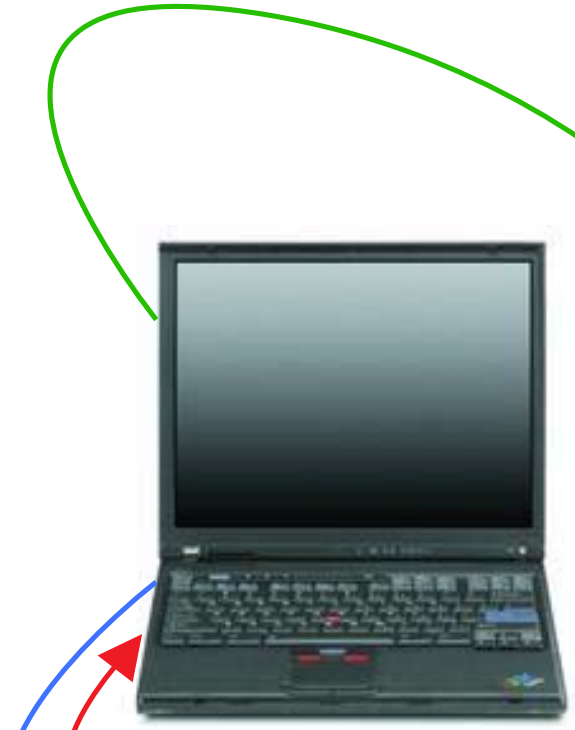
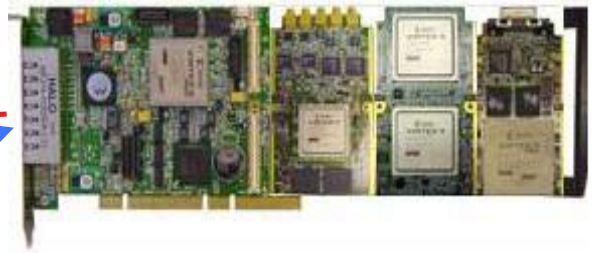
1Gbps F-LDPC Demo

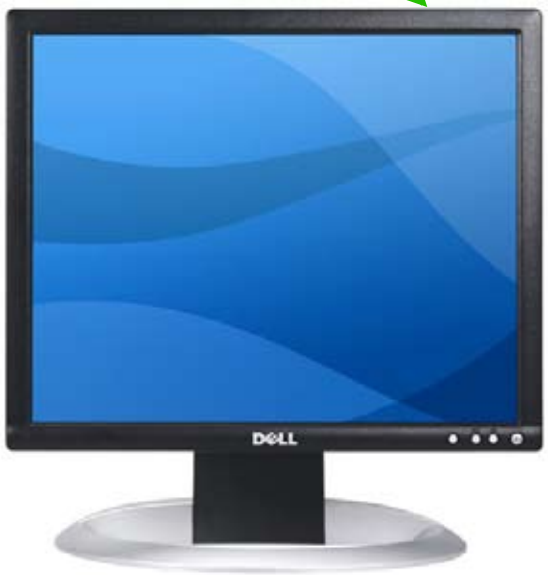
TrellisWare® TECHNOLOGIES

Raw 1 Gbps DVI video

1 Gbps streaming unbuffered decoded video







status

control

Encoding, noise injection and decoding

Flexible Low-Density-Parity-Check Codes (F-LDPC)

TrellisWare designed the F-LDPC to meet the demand in modern communication and storage systems for a highly flexible FEC solution that does not compromise performance and can achieve very high data throughputs. Each F-LDPC decoder core supports 40 standard code rates and virtually any blocksize and digital modulation type. Furthermore, this block-size/code-rate/modulation-type flexibility does not increase the complexity of the F-LDPC cores. F-LDPC complexity for a given throughput or flexibility can be shown to be lower than other advanced FEC technologies, such as Serial Concatenated Convolutional Codes (SCCC), Parallel Concatenated Convolutional Codes (PCCC), LDPCs and Turbo Product Codes (TPC).

For the MILCOM 2006 showcase, TrellisWare is partnered with Xilinx, Inc. and Nallatech, Inc. TrellisWare is providing the high-speed F-LDPC encoder/decoder cores, Xilinx is providing the FPGAs (LX-160), and Nallatech is providing the motherboard (BenNUEY-PCI) and daughter cards (BenDVI, and BenBLUE-V4) which host the FPGAs and provide the video interfaces.

The demonstration shows the high speed error correction capability of TrellisWare's F-LDPC technology by encoding a 1 Gbps raw digital video-stream, corrupting the stream with noise, and decoding the stream before displaying it on a monitor. The visual integrity of the displayed video is a qualitative indicator of the F-LDPC's performance.

About TrellisWare

TrellisWare Technologies, Inc. is a privately-held communications IP and products company headquartered in San Diego. Self funded since its incorporation in April 2000, TrellisWare has built a reputation as a leader in advanced communication algorithms, waveforms and turnkey communication systems that work when nothing else does. TrellisWare has developed a wide range of highly-advanced Forward Error Correction (FEC) algorithms and software defined radio (SDR) waveforms used in many military and commercial communication products. With deep expertise in radio physical layer design, networking, efficient high speed decoding, algorithm development and RF integration, TrellisWare is also developing a unique family of communication products capable of operating in the harshest RF environments.

About Nallatech

Nallatech is the world's leading supplier of high-performance COTS FPGA-based Solutions. Nallatech designs and manufactures high-performance FPGA embedded products, in form factors such as PCI, VME, cPCI, PCI-X and PCI-104 for the Defense and Security industries, specifically SDR, SIGINT and C4ISR.

About Xilinx

Xilinx leads one of the fastest growing segments of the semiconductor industry - Programmable Logic Devices (PLDs) - with over 50 percent market share in calendar year 2004 according to Gartner Dataquest. PLDs represent an exciting growth potential in the chip market thanks to their flexible nature and ability to change functionality even after being manufactured.