MARKETING ORIENTED PRESENTATION

William Bricken
June 2002

A short presentation which focuses on marketing. It is still overwhelmingly about technical stuff (that needs to be fixed with more work on market-oriented research)

Objective

- sell reconfigurable semiconductor products
  - 65% gross profit margin in 5 years
  - $135M yearly revenues in 5 years

Method

- remove existing design impediments
- provide a far better product
  - significantly less expensive
  - exceptionally ease-to-use
  - significantly better performance
  - much faster time-to-market

Existing Problems

- high cost
  - Xilinx is a near monopoly
  - Virtex-II FGPA has huge apparent mark-up
- slow time-to-market and high NRE
  - unreliable timing
    - design iteration is difficult
    - design changes create long delays
  - high design risk
    - ad hoc verification methods
    - locked in hardware designs
- poor quality software
  - legacy
  - awkward to use, poorly written
  - significant cause of design delay
  - requires expertise
  - tries to solve too hard problems
    - Boolean optimization
    - place and route

Causes of Existing Problems

FPGA hardware architectures are decades old
FPGA software algorithms are decades old
FPGA technologies require significant expertise
software has not been rewritten for modern architectures and logics
no hybrid vigor, no market challenges

BTC's Solutions

to high cost
    homogeneous hardware with high yield
    formal and simple software with very low overhead
    low corporate overhead
to slow time-to-market and high NRE
    specify design functionality, push a button, done
    no expertise required
to unreliable timing
    co-design provides all timing
    co-design provides stable timing during design iteration
    300 MHz guarantee
to high design risk
    formal verification with no effort
    co-design provides integrated vertical solution
    handle all types of circuits with equal efficiency
    guaranteed high-density logic
to poor quality software:
    co-designed modern architecture and algorithms
    highly innovative software algorithms that are simple
    completely automated timing and layout
    exceptionally easy-to-use interface

BTC's Market

$2.1B FPGA market, 65% in communications
small companies wishing to field a low-cost, low NRE products quickly
large companies entering markets that need better reprogrammables
engineers frustrated with poor tools and poor performance
companies without hardware design expertise
existing designs on existing platforms which need inexpensive updating
existing designs which need less expensive hardware

BTC's Market Strategy

- field a product which solves existing problems
  - enhance time-to-market
  - significantly lower cost of ownership
- address irritants with solutions
  - exceptionally easy-to-use tools (software: 50%)
  - co-designed invisible hardware (architecture: 45%)
  - efficient fabrication, free software (cost: 40%)
  - guaranteed 300 MHz timing, high density logic (performance: 28%)

Strategic Differentiators

- guaranteed timing performance
- no-hype logic density
- push-button software
- free software
- completely new way of looking at logic, high media appeal
- strongly protected, unique IP
- competition has more problems as geometries shrink, we have less
- optimal designs automatically from quick-and-dirty specifications

Status

- software fully implemented, provably correct
- hardware SPICE simulations guarantee 300 MHz
- market verified by user survey (todo)