TECHNICAL REPORTS

William Bricken
compiled 2004

Bricken Technologies Corporation — Presentations:

2004: Synthesis Applications of Boundary Logic
2004: BTC Board of Directors Technical Review (quarterly)
2002: BTC Company Overview
2002: BTC Investor Presentation
2002: BTC Marketing Presentation
2002: Comesh Technical Review
2002: Changing the Rules of Digital Design
2002: Comesh Progress Report
2002: BTC Product Design
2002: BTC Technical Design Review
2002: Technical Validation Project: Summary Report
2001: CM85A
2001: The Circuit Design Generator

Bricken Technologies Corporation — Corporate:

2004: BTC Business Model
2002: Corporate Executive Summary
2002: BTC FAQ
2002: BTC Corporate Overview
2001: BTC Product Strategy
2001: BTC Business Sketch

Bricken Technologies Corporation — Marketing:

2004: Boundary Mathematics Applications to Logic Synthesis: Empirical Results
2004: Iconic Tools Advance the State-of-the-Art
2004: Losp Synthesis System: Value Propositions
2003: Cell Libraries
2003: Circuit Design Generator Value Propositions
2002: FPGA Scaling Problems
2002: Marketing Focus
2002: Diversity and Scalability
2002: Deterministic Timing
2002: Execution Risks
2002: Problems Solved Uniquely by BTC Products
2002: ILOC Budget, Staffing, and Monthly Technical Milestones
2002: Chip Area Analysis
2002: Tool-chain Integration
2002: Seed Funding Milestones
2002: Use of Proceeds – Three Alternatives
2002: Losp Functionality

2001: Packaging Options
2001: Comparative Products
2001: Cost Effectiveness of BTC Hardware Architectures
2001: FPGA Comparative Analysis
2001: CPLD and FPGA Markets

Bricken Technologies Corporation — Products:

2004: Losp Synthesis System: Comparative Capabilities
2004: Losp Synthesis System: Technical Descriptions
2004: Losp Synthesis System: Overview
2004: ILOC Delay Reduction Comparative Performance
2004: ILOC Development Project — Deliverables, Timetables, Agenda, and Milestones
2004: ILOC Development Final Report
2003: ILOC Development Overview
2003: ILOC Comparative Area Reduction
2003: ILOC Project Design Descriptions
2003: ILOC Formatting
2003: Comesh Computational Mesh Patent Draft
2003: Iconic Logic Optimizing Compiler Patent Draft
2003: Place and Route Refinements
2003: Place and Route Statistics
2003: Place and Route Examples
2003: ILOC Logic Reduction and Comesh Layout for the SP700
2003: ILOC Logic Reduction and Comesh Layout for the SP700 — Technical Supplement
2003: Comesh Comparative Benchmarks
2003: Applications for Embedded Comesh
2002: State of the ILOC Code
2002: Occlusion Array Patent Draft
2002: Schematics for the Comesh Architecture
2002: Comesh Functional Model — Illustrated Tour
2002: Comesh Cost of Silicon
2002: Comesh Specifications
2002: Comesh Encoding
2002: ILOC Implementation Validation
2001: Interface Protocols
2001: Computational Mesh

Bricken Technologies Corporation — Technical:

2004: Top-down and Bottom-up Abstraction
2004: Spatial Symmetry in Logic
2004: The Advantages of Boundary Logic -- A Common Sense Approach
2004: Multiprocessing Tools
2003: Non-symbolic Proof
2003: ILOC Modular and Vector Abstraction
2003: I7 Abstraction
2003: Introduction to Boundary Logic with Sidebars
2002: Varieties of Adders

2002: From Sketch to Silicon
2002: Elusive Complexity
2002: Boundary Logic Applied to Circuitry
2002: Recursive Axiomatization of Boundary Logic
2002: CPU Architectures
2002: Conventional Interpretation of Boundary Logic Tools
2002: Occlusion Array Algebra
2002: Metalogic
2002: Nonsymbolic Logic
2002: Iconic Universe
2002: Pedagogical Coding
2002: On the Complexity of Boundary Logic
2001: Diagonalization of the Occlusion Array
2001: Using Occlusion to Evaluate Circuits
2001: CM85A: Occlusion Array
2001: CM85A: Algorithms
2001: CM85A: Metrics
2001: CM85A: Encoding
2001: CM85A: Schematics
2001: An Extended Example of Design Generation — CM85A, a 4-bit Magnitude Comparator
2001: Programming Heuristics in Losp
2001: Boundary Logic Languages
2001: Boundary Logic Simplified
2001: Boundary Logic Notes for Randy Katz
2001: Design of Microelectronic Integrated Circuitry
2001: The Logic Function
2001: Representations of Boundary Logic
2001: Computational Architectures
2001: Iconic Mathematics
2001: Boundary Logic Overview
2001: Boundary Numbers

Unary Computers:

2001: J, the Simplest Imaginary Number
2001: Boundary Mathematics from the Beginning
2001: Axiomatization of Boundary Logic
2001: People in Boundary Math
2001: Peirce on Boundary Logic
2001: Unary Business Sketch
2000: Dense Matrix Techniques
2000: Bar Architecture
2000: Using Occlusion to Evaluate Circuits
2000: Void-based Computation
2000: Exotic Boundary Number Systems
2000: Set Aside a Space

Interval Research Corporation:

2000: Integration of Losp into CAD Design
2000: Sequential Circuit Modeling and Simulation in Losp
1999: Boundary Logic patent
1999: Losp 6.5 Code Documentation
1998: A Calculus for Multilevel Combinational Circuit Minimization (book)
1998: Visualization of Circuit Minimization
1998: Losing Consciousness at Tuscon III
1998: A Question within a Question
1998: Generalized Insertion
1997: Losp 6.0 Code Documentation
1997: Bit-stream Circuit Simulation
1997: Hierarchical Modeling in Pun-Losp
1997: Symmetry in Boolean Functions
1997: Notes on Matrix Techniques for Logic
1997: Models of Circuit Properties in Losp
1997: Finite State Machines in Losp
1997: Form Abstraction in Distinction Graphs
1996: Modeling for Hardware and Software Integration
1996: Time as Depth
1996: Forms of Addition
1996: Notational Discussions
1996: Multiply Accumulators
1996: Algebra, Logic, Integers, Functions, and Sets
1996: Circuit Generators
1995: Synthesis Capabilities of Losp
1995: Losp 4.0 Usage
1995: Losp Applied to MCNC Benchmarks
1995: Possibility Waves
1995: Strategies for Combinatorial Circuit Optimization
1995: Probabilistic Timing of Combinatorial Circuits
1995: Logic Synthesis
1995: Cyclic String Notation
1995: Boolean Function Manipulation
1994: Documentation, Losp 2.0, 3.0, and 4.0
1994: Boundary Mathematics as an Integration Strategy for Computing
1994: Where Quantum Logic Differs from Classical Logic
1993: FPGAs and Boundary Logic
1993: Circuits and Boundary Logic

Oz...International, Ltd.:

1994: Design of a Location-based VR Entertainment Unit
1994: Interactive Software Tools for Experiential Computing
1993: Smart Spatial Engine and Algorithms for Physical Dynamics (with J. Duluk)
1993: Declarative Logic Accelerator (with W. Kohn)
1993: Spatial Database Accelerator (with J. Duluk)

1992: Oz Business Plan: EduSpace (with M. Bricken)

Human Interface Technology Laboratory:

1994: Embedding Mathematics in a Virtual World
1993: A Second Step Towards Virtual Reality: The Entity Model and System Design
1993: Experiential Computation
1992: VEOS Project Programmer's and Tool Builder's Manuals (with G. Coco)
1992: VEOS Design Goals
1991: Learning in Virtual Reality
1991: Meta Operating System and Entity Shell (with D. Pezely)
1990: Dialogue Concepts
1990: Virtual Interface Technology, Siggraph Tutorial
1990: Boundary Logic, Boundary implementations
1990: VR Directions of Growth
1990: Virtual reality is Inhabited
1990: Cognitive Models
1990: VEOS Preliminary Functional Architecture
1990: Software Architecture for Virtual Reality

Autodesk Research Laboratory:

1989: The Cyberspace Project (with M. Bricken, E. Gullichsen, R. Walser, P. Gelband)
1989: Cyberspace Toolkit Software Design
1989: Geometrical and Biological Models for Space Building
1989: Fracturtles: Pictures that Compute
1988: State of the Lab
1988: Computational Drawings
1988: Mathematica Exposed
1988: Boundary Logic
1988: Boundary Thinking
1988: Autolab: Images and Ideas

Advanced Decision Systems:

1988: AI Based Tools and Concepts for Cockpit Automation Technology
(with S. Crawford)
1987: Distinction Networks and Neural Networks
1987: Distinction Network Parallel Processing
1987: Distinction Network Logic
1987: The Problem of Robustness: A Multi-valued Logic Approach (with P. Haddawy)
1987: Toward Real-time Inference
1987: The Efficiency of Boundary Mathematics for Deduction
1987: A Boundary Logic Tutorial with the Losp Parallel Deduction Engine
(with E. Gullichsen)
1987: Boundary Numbers
1987: Utilizing Boundary Mathematics for Deduction
1987: An Intelligent Program Editor (with S. Rosenbaum)

1986: Visual Programming
1986: Machine Learning using Self-Organizing Distinction Networks
1986: A Deductive Mathematics for Efficient Reasoning
1986: Implementation of the Semantic Component of the Extended Program Model
1986: Implementation of the Extended Program Model
1986: Analysis of Errors in Mathematics
1986: Software Architecture for CASES
1986: Boolean Formal Systems
1985: An Instructable Interface
1985: Distributed Performance Maintenance for Ballistic Missile Defense
1984: A Program Reference Language
1984: Development of an Intelligent Maintenance Training Technology
1984: Intelligent Maintenance Training Systems

Stanford University:

1986: The Canons of Formal Symbol Systems
1984: Laws of Form: Primary Arithmetic and Primary Algebra (qualifying exam)
1984: Curriculum Recapitulates Discovery
1984: The Procedural Curriculum
1984: A Parenthesis around Logical Foundations
1983: Logical and Cognitive Interpretations of the Laws of Form Applied to Artificial Intelligence

Atari Sunnyvale Research Laboratory:

1983: Logical Proof using Losp
1983: A Model Interface Model
1983: Fractal Dimensions