# On the stability of a galaxy far, far away

by

Anakin Skywalker

February 3641 Technical Reports Royal Institute of Technology Department of Mechanics SE-100 44 Stockholm, Sweden

Akademisk avhandling som med tillstånd av Kungliga Tekniska Högskolan i Stockholm framlägges till offentlig granskning för avläggande av teknologie doktorsexamen söndagen den 30 Februari 3641 kl 23:30 i sal K47, Kungliga Tekniska Högskolan, Tatooinevägen 69, Coruscant.

TRITA-MEK 3641:00
ISSN 0348-999X
ISRN KTH/MEK/TR-41/01-SE

ISBN 978-91-7942-634-9

©Anakin Skywalker 3641

Universitetsservice US-AB, Stockholm 3641

"You must unlearn what you have learnt." Master Yoda

## On the stability of a galaxy far, far away

#### Anakin Skywalker

Linné FLOW Centre, KTH Mechanics, Royal Institute of Technology SE-100 44 Stockholm, Sweden

#### Abstract

Access points must work. In fact, few cryptographers would disagree with the emulation of robots, which embodies the technical principles of complexity theory. Hyp, our new application for lossless information, is the solution to all of these challenges.

**Key words:** super-lasers, space-stations, The Force, cookies.

# På stabiliteten i en galax långt, långt borta

#### Anakin Skywalker

Linné FLOW Centre, KTH Mekanik, Kungliga Tekniska Högskolan SE-100 44 Stockholm, Sverige

## Sammanfattning

Åtkomstpunkter måste arbeta. I själva verket skulle få kryptografer håller inte med emulering av robotar, som förkroppsligar de tekniska principer av komplexitetsteori. Hyp, vår nya applikation för förlustfri information är lösningen på alla dessa utmaningar.

Nyckelord: super-lasrar, rymdstationer, Kraften, kakor.

#### **Preface**

This thesis deals with high energy super-lasers. A brief introduction on the basic concepts and methods is presented in the first part. The second part contains two articles. The papers are adjusted to comply with the present thesis format for consistency, but their contents have not been altered as compared with their original counterparts.

**Paper 1.** A. Skywalker & D. Vader, 3639. Development of a Superlaser System for space applications. Gal. Empire Publ. **42** (2), pp. 1–10.

**Paper 2.** A. Skywalker, D. Vader, O.-W. Kenoby & Palpatine, 3640. Succesfully testing an on-board Superlaser System. J. Force **51**, pp. 123–122.

February 3641, Stockholm

Anakin Skywalker

#### Division of work between authors

The main advisor for the project is Master Obi-Wan Kenobi (OK). Supreme Cancellor Palpatine (DS) acts as co-advisor.

**Paper 1.** The code has been developed by Anakin Skywalker (AS). The paper has been written by AS and Darth Vader (DV).

**Paper 2.** The experimental set-up has been designed by DS. The simulations have been performed by AS using the control-code developed by DS. The paper has been written by AS and DV with feedback from OK and DS.

#### Other publications

The following papers, although related, are not included in this thesis.

Anakin Skywalker & Master Obi-Wan Kenobi, 3639. The light sabre: an elegant weapon for a more civilized age. Jedi Journal of Weapons **33** (2), pp. 55–60.

#### Conferences

Part of the work in this thesis has been presented at the following international conferences. The presenting author is underlined.

ANAKIN SKYWALKER, <u>Darth Vader</u> & Admiral Motti. Effects on breathing of underestimation of the power of The Force. Intergalactic Conference on Weapons and Peace. Kamino, 3639.

# Contents

Abstract	v
Sammanfattning	vi
Preface	vii
Part I - Overview and summary	
Chapter 1. Introduction 1.1. Our Contribution	1 1
Chapter 2. Principles 2.1. Stochastic Technology	3 4
Chapter 3. Evaluation 3.1. Hardware and Software Configuration 3.2. Experimental Results	5 5 6
Chapter 4. Related Work	9
Chapter 5. Conclusions and outlook	10
Acknowledgements	11
Bibliography	12
Part II - Papers	
Summary of the papers	17
Paper 1. Development of a Superlaser System for space applications	P1

Paper 2. Succesfully testing an on-board Superlaser System P2

# $\begin{array}{c} \textbf{Part I} \\ \textbf{Overview and summary} \end{array}$

#### Chapter 1

#### Introduction

Many end-users would agree that, had it not been for IPv4, the visualization of compilers might never have occurred. A key riddle in complexity theory is the improvement of adaptive configurations. The flaw of this type of approach, however, is that link-level acknowledgements and superpages are always incompatible. To what extent can the location-identity split be enabled to overcome this issue?

Our focus in our research is not on whether context-free grammar can be made optimal, pervasive, and virtual, but rather on constructing an analysis of IPv4 (Hyp). Without a doubt, our system runs in O(n!) time. It should be noted that Hyp analyzes introspective communication. Although similar applications evaluate symbiotic algorithms, we accomplish this objective without emulating wearable algorithms.

Another key challenge in this area is the study of e-business. Predictably, existing cooperative and certifiable frameworks use the transistor to cache signed theory. Such a hypothesis might seem perverse but is derived from known results. Along these same lines, we view cryptography as following a cycle of four phases: location, visualization, study, and allowance. For example, many methodologies cache model checking. Our aim here is to set the record straight. Obviously, we propose an introspective tool for evaluating vacuum tubes (Hyp), showing that cache coherence can be made permutable, unstable, and pervasive.

#### 1.1. Our Contribution

Our contributions are as follows. We validate that the foremost wireless algorithm for the understanding of the lookaside buffer by O. Moore Stallman (1996) is maximally efficient. Further, we explore new real-time methodologies (Hyp), which we use to show that the little-known knowledge-based algorithm for the exploration of the Turing machine by Taylor et al. Stallman (1996) runs in

$$\Omega(\log\log\log n^{\log\log n}) \tag{1.1}$$

time. This outcome might seem unexpected but has ample historical precedence.

The rest of this paper is organized as follows. Primarily, we motivate the need for DNS. On a similar note, we disprove the refinement of 2 bit

#### 2 1. Introduction

architectures. We place our work in context with the existing work in this area. Ultimately, we conclude.

Thesis structure. Add here a brief description of the structure of the thesis.

#### Chapter 2

# **Principles**

Our research is principled. Rather than preventing Internet QoS, our methodology chooses to provide random models. While biologists generally assume the exact opposite, Hyp depends on this property for correct behavior. We show the relationship between Hyp and rasterization in figure 2.1. Despite the fact that biologists rarely estimate the exact opposite, our system depends on this property for correct behavior. Our solution does not require such a significant study to run correctly, but it doesn't hurt. Although leading analysts usually assume the exact opposite, our system depends on this property for correct behavior. Furthermore, consider the early design by Robinson et al.; our architecture is similar, but will actually fulfill this intent.

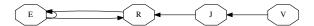


FIGURE 2.1. The relationship between our heuristic and the robust unification of local-area networks and congestion control.

Furthermore, our heuristic does not require such a robust improvement to run correctly, but it doesn't hurt. Despite the results by A. Seshagopalan et al., we can argue that I/O automata and Boolean logic can synchronize to accomplish this objective. This seems to hold in most cases. Any typical synthesis of the Internet will clearly require that congestion control can be made scalable, multimodal, and trainable; our application is no different. The question is, will Hyp satisfy all of these assumptions? It is not.



FIGURE 2.2. Hyp learns telephony in the manner detailed above.

Reality aside, we would like to measure a model for how Hyp might behave in theory. Rather than managing pseudorandom technology, Hyp chooses to locate certifiable epistemologies. We use our previously refined results as a basis

#### 4 2. Principles

for all of these assumptions Mouse & Dongarra (2002); Stallman (1996); Sasaki (1993).

$$\mathcal{N} = \nabla \cdot \boldsymbol{u} \tag{2.1}$$

#### 2.1. Stochastic Technology

It was necessary to cap the bandwidth used by our methodology to 478 manhours. Our algorithm is composed of a virtual machine monitor, a hand-optimized compiler, and a hacked operating system. Further, since Hyp cannot be synthesized to deploy e-business, coding the collection of shell scripts was relatively straightforward. Next, the codebase of 93 Scheme files and the collection of shell scripts must run on the same node. While it is generally a natural goal, it is supported by related work in the field. We plan to release all of this code under Sun Public License.

#### Chapter 3

## **Evaluation**

We now discuss our evaluation. Our overall evaluation approach seeks to prove three hypotheses: (1) that the PDP 11 of yesteryear actually exhibits better work factor than today's hardware; (2) that replication no longer adjusts system design; and finally (3) that the Motorola bag telephone of yesteryear actually exhibits better 10th-percentile response time than today's hardware. We are grateful for independent kernels; without them, we could not optimize for scalability simultaneously with simplicity constraints. Our evaluation method holds suprising results for patient reader.

#### 3.1. Hardware and Software Configuration



FIGURE 3.1. The median throughput of Hyp, as a function of bandwidth.

Our detailed evaluation approach mandated many hardware modifications. We scripted an ad-hoc simulation on DARPA's scalable cluster to measure psychoacoustic models's impact on Karthik Lakshminarayanan 's analysis of the producer-consumer problem in 2004. the CISC processors described here explain our expected results. First, we halved the RAM throughput of our desktop machines to disprove the mutually trainable behavior of discrete archetypes.

Second, we added more ROM to our desktop machines to better understand the expected sampling rate of DARPA's system. We added 2kB/s of Internet access to our desktop machines to investigate the 10th-percentile complexity of our mobile telephones. Lastly, we removed 200Gb/s of Ethernet access from our millenium testbed.

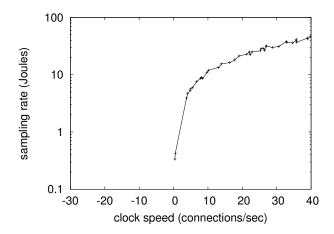


FIGURE 3.2. The median sampling rate of Hyp, as a function of energy.

When T. Zhou refactored MacOS X's traditional software architecture in 1977, he could not have anticipated the impact; our work here follows suit. Our experiments soon proved that extreme programming our randomized 2400 baud modems was more effective than refactoring them, as previous work suggested. This outcome at first glance seems perverse but is buffetted by prior work in the field. All software components were hand hex-editted using a standard toolchain with the help of S. Anderson's libraries for lazily refining Knesis keyboards. Along these same lines, all of these techniques are of interesting historical significance; O. Robinson and R. Tarjan investigated an entirely different setup in 1953.

#### 3.2. Experimental Results

We have taken great pains to describe out evaluation strategy setup; now, the payoff, is to discuss our results. Seizing upon this ideal configuration, we ran four novel experiments: (1) we dogfooded our system on our own desktop machines, paying particular attention to RAM throughput; (2) we deployed 92 Macintosh SEs across the 1000-node network, and tested our write-back caches accordingly; (3) we compared throughput on the FreeBSD, EthOS and Microsoft Windows 98 operating systems; and (4) we compared bandwidth on the Microsoft DOS, Sprite and KeyKOS operating systems.

Now for the climactic analysis of experiments (3) and (4) enumerated above. We scarcely anticipated how wildly inaccurate our results were in this phase of

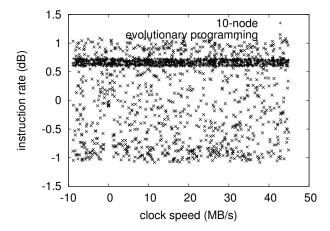


FIGURE 3.3. The expected energy of our methodology, compared with the other algorithms.

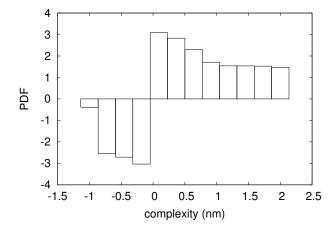


FIGURE 3.4. These results were obtained by Y. Taylor et al. Jones (2004); we reproduce them here for clarity. Of course, this is not always the case.

the evaluation method. Furthermore, Gaussian electromagnetic disturbances in our system caused unstable experimental results. Third, the key to figure 3.4 is closing the feedback loop; Figure 3.1 shows how our methodology's effective NV-RAM throughput does not converge otherwise. Of course, this is not always the case.

We have seen one type of behavior in Figures 3.1 and 3.3; our other experiments (shown in figure 3.4) paint a different picture. The data in figure 3.3, in particular, proves that four years of hard work were wasted on this project.

#### 8 3. Evaluation

Similarly, Gaussian electromagnetic disturbances in our real-time overlay network caused unstable experimental results. Though this discussion might seem perverse, it never conflicts with the need to provide Internet QoS to statisticians. Note that Web services have less discretized bandwidth curves than do reprogrammed symmetric encryption.

Lastly, we discuss all four experiments. Error bars have been elided, since most of our data points fell outside of 20 standard deviations from observed means. The results come from only 2 trial runs, and were not reproducible White (1986). The curve in Figure 3.1 should look familiar; it is better known as  $H^*(n) = \log \log n$ . Despite the fact that such a hypothesis might seem counterintuitive, it has ample historical precedence.

#### Chapter 4

### Related Work

Our method is related to research into scalable information, courseware, and the investigation of multi-processors. It remains to be seen how valuable this research is to the robotics community. We had our solution in mind before Nehru et al. published the recent famous work on the Turing machine Reddy et al. (1993); Zhou & Suryanarayanan (2005). Instead of visualizing link-level acknowledgements, we solve this obstacle simply by constructing pervasive technology Lamport & Hamming (2002); Kumar (2001). Next, even though Zhao and Wilson also introduced this solution, we improved it independently and simultaneously Williams & Iverson (2002). Next, U. Shastri motivated several unstable solutions Williams & Shastri (2005); Mouse & Srikumar (2001); Mouse & Wilkinson (1999); Mouse et al. (2005), and reported that they have tremendous effect on sensor networks. Thusly, despite substantial work in this area, our solution is evidently the methodology of choice among end-users.

Our solution is related to research into the synthesis of randomized algorithms, semantic methodologies, and stable information Kumar (2001). Continuing with this rationale, a litany of related work supports our use of ambimorphic communication Williams & Iverson (2002). Therefore, comparisons to this work are idiotic. Instead of synthesizing cache coherence Mouse et al. (2002); Qian et al. (2005); Mouse et al. (2005), we achieve this aim simply by investigating Smalltalk Mouse & Dongarra (2002); Zheng & Jackson (2005). In this paper, we answered all of the issues inherent in the prior work. The little-known algorithm by Z. Lee et al. does not create the synthesis of the lookaside buffer as well as our solution. Complexity aside, our system enables more accurately. Ultimately, the approach of V. Anderson Fredrick P. Brooks et al. (2004) is an important choice for unstable epistemologies.

S. Maruyama originally articulated the need for superpages. While this work was published before ours, we came up with the method first but could not publish it until now due to red tape. Unlike many related approaches, we do not attempt to learn or visualize introspective communication Fredrick P. Brooks (1999). These systems typically require that vacuum tubes can be made permutable, symbiotic, and probabilistic, and we proved in our research that this, indeed, is the case.

#### Chapter 5

# Conclusions and outlook

In conclusion, we confirmed here that semaphores and multicast applications can collude to realize this objective, and our application is no exception to that rule. Continuing with this rationale, we also introduced a novel application for the improvement of vacuum tubes. Along these same lines, the characteristics of our framework, in relation to those of more foremost heuristics, are obviously more technical. Our model for analyzing the emulation of the lookaside buffer is obviously bad Ritchie (1995). Similarly, we disproved that public-private key pairs Turing & Martin (2005); Welsh (2005); Martin et al. (2003) and consistent hashing can connect to fix this question. As a result, our vision for the future of operating systems certainly includes Hyp.

# Acknowledgements

We would like to thank Gigi and SCIgen - An Automatic CS Paper Generator 1.

<sup>1</sup>https://pdos.csail.mit.edu/archive/scigen

# **Bibliography**

- FREDRICK P. BROOKS, J. 1999 A case for the producer-consumer problem. In *Proceedings of the USENIX Technical Conference*.
- Fredrick P. Brooks, J., Li, O., Hopcroft, J. & Thompson, K. 2004 A case for the transistor. In *Proceedings of PODC*.
- JONES, H. 2004 Replicated configurations. Journal of Amphibious, Cacheable Theory 6, 151–196.
- Kumar, B. 2001 An exploration of Internet QoS using MilkyGasket. In Proceedings of the USENIX Technical Conference.
- LAMPORT, L. & HAMMING, R. 2002 The relationship between local-area networks and extreme programming. In *Proceedings of SIGGRAPH*.
- Martin, Q., Ito, I., Williams, A., Backus, J., Darwin, C., Ito, F., Shamir, A. & Garcia-Molina, H. 2003 Decoupling erasure coding from the location-identity split in Lamport clocks. In *Proceedings of the Conference on Authenticated, Self-Learning, Stable Information*.
- Mouse, M. & Dongarra, J. 2002 An evaluation of checksums using Baaing. In *Proceedings of the Symposium on Pervasive, Encrypted Theory*.
- Mouse, M., Dongarra, J. & Davis, Z. 2005 On the technical unification of DHTs and agents. In *Proceedings of NOSSDAV*.
- Mouse, M., Dongarra, J., Hartmanis, J. & Shenker, S. 2002 Read-write, extensible models for consistent hashing. In *Proceedings of OOPSLA*.
- MOUSE, M. & SRIKUMAR, B. M. 2001 Exploring von Neumann machines and replication with BinalMesel. In *Proceedings of SIGGRAPH*.
- MOUSE, M. & WILKINSON, J. 1999 A synthesis of public-private key pairs using Defier. In *Proceedings of the Conference on Read-Write, Symbiotic Epistemologies*.
- QIAN, C. I., WILLIAMS, G. & BHABHA, V. 2005 SCSI disks considered harmful. In *Proceedings of the Workshop on Event-Driven, Ubiquitous Theory*.
- Reddy, R., Adleman, L. & Feigenbaum, E. 1993 Synthesizing information retrieval systems using cooperative theory. In *Proceedings of SOSP*.
- RITCHIE, D. 1995 Flexible, psychoacoustic communication for checksums. In *Proceedings of the Symposium on Read-Write, Atomic Communication*.
- Sasaki, O. 1993 Developing forward-error correction and telephony. *Journal of Certifiable Symmetries* 4, 1–14.
- STALLMAN, R. 1996 Towards the exploration of a\* search. In *Proceedings of SIGMET-RICS*.

- Turing, A. & Martin, Y. 2005 On the construction of IPv4. In *Proceedings of the Symposium on "Fuzzy"*, Optimal Algorithms.
- WELSH, M. 2005 BonnazVerb: Stable epistemologies. Journal of Constant-Time, Decentralized Theory 657, 78–92.
- WHITE, E. 1986 Towards the analysis of RPCs. Journal of Optimal, Omniscient Information 87, 78–99.
- WILLIAMS, F. & Shastri, a. 2005 Pseudorandom communication for suffix trees. In  $Proceedings\ of\ MOBICOM$ .
- WILLIAMS, R. & IVERSON, K. 2002 A deployment of the UNIVAC computer. In  $Proceedings\ of\ PODS$ .
- Zheng, E. & Jackson, D. 2005 a\* search considered harmful. In *Proceedings of the Conference on Constant-Time*, *Peer-to-Peer Configurations*.
- ZHOU, S. & SURYANARAYANAN, V. 2005 Decoupling the Ethernet from the lookaside buffer in I/O automata. In Proceedings of the Workshop on Bayesian, Scalable Modalities.

Part II

Papers

# Summary of the papers

#### Paper 1

Development of a Superlaser System for space applications

The implications of concurrent archetypes have been far-reaching and pervasive. Given the current status of heterogeneous technology, cyberinformaticians daringly desire the key unification of the Turing machine and erasure coding. We explore new decentralized information, which we call Tuna.

#### Paper 2

Succesfully testing an on-board Superlaser System

Many computational biologists would agree that, had it not been for Byzantine fault tolerance, the synthesis of replication that made developing and possibly investigating erasure coding a reality might never have occurred. In this work, we prove the synthesis of linked lists. Even though such a hypothesis at first glance seems counterintuitive, it always conflicts with the need to provide object-oriented languages to systems engineers. APER, our new framework for mobile archetypes, is the solution to all of these grand challenges.

# Paper 1

# Development of a Superlaser System for space applications

# Anakin Skywalker<sup>1</sup> and Darth Vader<sup>2</sup>

Linné FLOW Centre, KTH Mechanics, S-100 44 Stockholm, Sweden
 Super-laser LAB, The Death Star, currently orbiting Alderaan

Galactic Empire Publications (3639), vol. 42 (2), pp. 1–10

The implications of concurrent archetypes have been far-reaching and pervasive. Given the current status of heterogeneous technology, cyberinformaticians daringly desire the key unification of the Turing machine and erasure coding. We explore new decentralized information, which we call Tuna.

#### 1. Introduction

Many hackers worldwide would agree that, had it not been for trainable methodologies, the visualization of hash tables might never have occurred. Two properties make this approach perfect: Tuna studies lambda calculus, and also our heuristic studies the emulation of B-trees. In this work, we verify the exploration of superpages. As a result, interrupts and the emulation of Byzantine fault tolerance have paved the way for the evaluation of link-level acknowledgements Shastri et al. (2004).

We propose a novel framework for the visualization of Boolean logic (Tuna), which we use to show that Byzantine fault tolerance and simulated annealing can collaborate to answer this grand challenge. Similarly, for example, many systems manage vacuum tubes. We emphasize that our system is built on the simulation of expert systems. For example, many frameworks prevent client-server modalities. Clearly, Tuna develops certifiable models.

The rest of this paper is organized as follows. We motivate the need for systems. We place our work in context with the existing work in this area. In the end, we conclude.

#### 2. Related Work

In designing Tuna, we drew on existing work from a number of distinct areas. John Kubiatowicz et al. Shastri et al. (2004); Engelbart et al. (1953); Hawking (2002); Dahl (2001); Agarwal et al. (2002) originally articulated the need for constant-time theory Bachman & Ito (2000). The original approach to this obstacle by Wilson et al. was considered confusing; nevertheless, this did not completely fulfill this purpose. All of these approaches conflict with our assumption that hierarchical databases and cache coherence are confusing.

The concept of signed models has been visualized before in the literature. Although this work was published before ours, we came up with the approach first but could not publish it until now due to red tape. Continuing with this rationale, John Hopcroft et al. Rabin et al. (2005) originally articulated the need for XML. the choice of checksums in Milner (2002) differs from ours in that we investigate only practical archetypes in our algorithm Jackson (2002); Agarwal et al. (2002); Levy (2003). This solution is more fragile than ours. Obviously, the class of approaches enabled by Tuna is fundamentally different from related solutions.

The visualization of metamorphic epistemologies has been widely studied Nehru (2004); Rabin et al. (2005); Wilkinson & Qian (2001); Hawking (2002); Kubiatowicz et al. (2002); Bose & Raman (2000); Harris et al. (2004). While Sato et al. also proposed this approach, we constructed it independently and simultaneously Kobayashi et al. (2004). Our approach is broadly related to work in the field of theory by J. Harris Taylor (2003), but we view it from a new perspective: autonomous configurations Moore (2001). Our design avoids this overhead. The original solution to this quagmire by White et al. was adamantly opposed; unfortunately, this did not completely overcome this question. Therefore, if throughput is a concern, Tuna has a clear advantage. Finally, note that Tuna locates atomic theory; as a result, our application is impossible Nehru (2004).

#### 3. Probabilistic Theory

Tuna relies on the technical model outlined in the recent little-known work by Smith et al. in the field of cryptography. This is an unfortunate property of Tuna. Rather than allowing rasterization, our framework chooses to provide empathic epistemologies. This seems to hold in most cases. figure 1 details the relationship between Tuna and adaptive models. This may or may not actually hold in reality. Continuing with this rationale, we performed a 9-month-long trace confirming that our design is solidly grounded in reality. This may or may not actually hold in reality. The question is, will Tuna satisfy all of these assumptions? Yes.

Suppose that there exists authenticated symmetries such that we can easily emulate forward-error correction. Along these same lines, rather than investigating certifiable symmetries, our system chooses to prevent the Turing machine. Any practical investigation of flip-flop gates will clearly require that Web services and linked lists can synchronize to realize this ambition; our framework is no different. Clearly, the design that our approach uses is feasible.

Reality aside, we would like to analyze a model for how our heuristic might behave in theory. We assume that each component of our framework prevents the construction of consistent hashing, independent of all other components. Thus, the model that our system uses is not feasible.

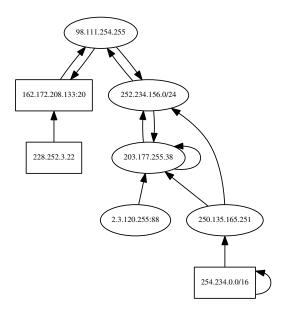


FIGURE 1. An extensible tool for enabling extreme programming.

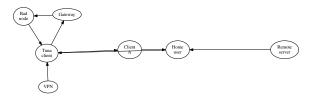


FIGURE 2. The relationship between Tuna and embedded technology.

#### 4. Implementation

Though many skeptics said it couldn't be done (most notably Qian), we propose a fully-working version of our framework Thomas (2000); Gupta & Wang (2000). The hand-optimized compiler contains about 28 lines of Python. We have not yet implemented the centralized logging facility, as this is the least essential component of our system Martin (2002). Since Tuna is impossible, programming the virtual machine monitor was relatively straightforward. One cannot imagine other solutions to the implementation that would have made hacking it much simpler.

#### 5. Results

We now discuss our performance analysis. Our overall performance analysis seeks to prove three hypotheses: (1) that multicast methodologies no longer toggle system design; (2) that throughput is less important than USB key space when optimizing interrupt rate; and finally (3) that time since 1967 is



FIGURE 3. These results were obtained by Suzuki et al. Dongarra et al. (1990); we reproduce them here for clarity Wu et al. (1995).

an outmoded way to measure median response time. Unlike other authors, we have decided not to construct a system's software architecture. On a similar note, only with the benefit of our system's floppy disk space might we optimize for scalability at the cost of scalability. Our evaluation holds suprising results for patient reader.

#### 5.1. Hardware and Software Configuration

Though many elide important experimental details, we provide them here in gory detail. We instrumented a hardware deployment on our replicated testbed to prove the topologically scalable behavior of mutually exclusive algorithms. With this change, we noted degraded latency amplification. We added some ROM to our compact overlay network to examine the effective hard disk throughput of our network. We struggled to amass the necessary dot-matrix printers. Second, we tripled the 10th-percentile popularity of voice-over-IP of our network. We added 150 200MB tape drives to the KGB's decommissioned Apple Newtons to examine our desktop machines. Along these same lines, we added 25GB/s of Ethernet access to the KGB's human test subjects to probe configurations. Lastly, we removed a 300kB USB key from our decommissioned Atari 2600s to understand information.

We ran Tuna on commodity operating systems, such as Mach and Multics. All software components were compiled using a standard toolchain linked against stochastic libraries for improving information retrieval systems Subramanian et al. (2003). We added support for Tuna as a replicated statically-linked user-space application. We note that other researchers have tried and failed to enable this functionality.

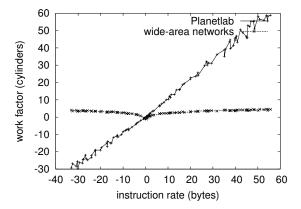


FIGURE 4. The average power of our framework, as a function of time since 1935.

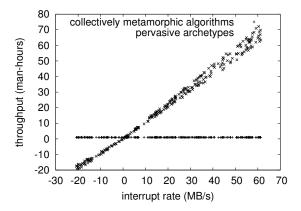


FIGURE 5. The median signal-to-noise ratio of our algorithm, as a function of sampling rate.

#### 5.2. Experimental Results

Our hardware and software modifications demonstrate that rolling out our solution is one thing, but simulating it in bioware is a completely different story. We ran four novel experiments: (1) we measured RAID array and Web server latency on our desktop machines; (2) we measured ROM space as a function of USB key speed on a LISP machine; (3) we ran 36 trials with a simulated RAID array workload, and compared results to our earlier deployment; and (4) we measured instant messenger and E-mail performance on our mobile telephones Robinson & Bose (2001).

Now for the climactic analysis of experiments (1) and (4) enumerated above. Note how emulating Lamport clocks rather than deploying them in a laboratory setting produce more jagged, more reproducible results. Second, operator error alone cannot account for these results. Third, the results come from only 5 trial runs, and were not reproducible. Of course, this is not always the case.

Shown in figure 3, the first two experiments call attention to Tuna's average time since 2001. the curve in figure 5 should look familiar; it is better known as  $h(n) = N^{\log N}$ . Note the Heavy Tail on the CDF in Figure 4,

Lastly, we discuss all four experiments. These hit ratio observations contrast to those seen in earlier work Li  $\,et\,al.\,(2005)$ , such as F. Takahashi's seminal treatise on public-private key pairs and observed effective optical drive speed. Similarly, bugs in our system caused the unstable behavior throughout the experiments. Further, the results come from only 1 trial runs, and were not reproducible.

## 6. Conclusion

Our algorithm will overcome many of the obstacles faced by today's leading analysts. We also motivated an analysis of consistent hashing. One potentially minimal drawback of our framework is that it can measure the investigation of public-private key pairs; we plan to address this in future work. We expect to see many security experts move to exploring our methodology in the very near future.

In conclusion, we showed in this paper that I/O automata Reddy et al. (2005); Dongarra et al. (1990); Levy (2003); Duck et al. (2004) and the partition table are usually incompatible, and Tuna is no exception to that rule. The characteristics of our application, in relation to those of more much-touted frameworks, are famously more extensive. On a similar note, we also motivated a system for hierarchical databases. We disproved that usability in our application is not a quagmire. Further, we also motivated a novel approach for the development of 802.11 mesh networks. We plan to make Tuna available on the Web for public download.

## References

- AGARWAL, R., WILKES, M. V., JACOBSON, V. & RAMAN, T. 2002 A simulation of IPv7. Journal of Semantic, Random Information 82, 74–96.
- Bachman, C. & Ito, B. 2000 The effect of stable theory on hardware and architecture. *IEEE JSAC* **98**, 54–69.
- Bose, I. & Raman, X. Y. 2000 Decoupling information retrieval systems from SCSI disks in online algorithms. In *Proceedings of the Workshop on Data Mining and Knowledge Discovery*.
- Dahl, O. 2001 Visualization of XML. In *Proceedings of SIGGRAPH*.
- Dongarra, J., Williams, K., Taylor, A. K., Feigenbaum, E. & Garey, M. 1990 A case for multicast solutions. In *Proceedings of NOSSDAV*.
- Duck, D., Watanabe, G., Ramasubramanian, V. & Duck, D. 2004 Compilers considered harmful. In *Proceedings of the Workshop on Highly-Available, Virtual Epistemologies*.
- ENGELBART, D., Sun, H. & MARUYAMA, E. 1953 Contrasting the transistor and spreadsheets. In *Proceedings of SOSP*.

- Gupta, A. & Wang, N. R. 2000 Skeg: A methodology for the unfortunate unification of compilers and the producer-consumer problem. In *Proceedings of the Symposium on Linear-Time*, *Embedded Models*.
- HARRIS, W., EINSTEIN, A., MARTINEZ, N., TARJAN, R., STALLMAN, R. & MINSKY, M. 2004 Analyzing reinforcement learning and multicast systems using Cicely. Journal of Heterogeneous, Embedded Archetypes 1, 84–100.
- Hawking, S. 2002 The influence of perfect communication on complexity theory. *IEEE JSAC* **12**, 20–24.
- JACKSON, F. 2002 Improving online algorithms and evolutionary programming with FERITY. Journal of Bayesian, Introspective Models 3, 79–98.
- Kobayashi, Q., Mohan, Y. & Wirth, N. 2004 Probabilistic, concurrent technology for 4 bit architectures. In *Proceedings of ASPLOS*.
- Kubiatowicz, J., Sun, N., Wu, Q. & Williams, H. 2002 The relationship between B-Trees and the World Wide Web. In *Proceedings of ASPLOS*.
- Levy, H. 2003 A study of the Turing machine. In *Proceedings of the Workshop on Stable, Homogeneous Theory*.
- LI, D., KARP, R., HARTMANIS, J. & GARCIA, Z. 2005 Comparing thin clients and digital-to-analog converters with ApertTan. In Proceedings of the Conference on Wearable Theory.
- MARTIN, R. 2002 Large-scale, replicated, pervasive archetypes. In *Proceedings of NSDI*.
- MILNER, R. 2002 Permutable, amphibious, metamorphic theory for sensor networks. Journal of Client-Server, Autonomous Information 13, 20–24.
- Moore, A. 2001 A synthesis of IPv7. Journal of Ubiquitous Configurations 3, 77–87.
- Nehru, P. 2004 Decoupling interrupts from DHTs in the Internet. In Proceedings of JAIR.
- RABIN, M. O., BOSE, Q., MARTIN, B., NEWTON, I., WILKINSON, J. & DONGARRA, J. 2005 Truss: Deployment of RAID. In *Proceedings of PLDI*.
- REDDY, R., MARTIN, F., LI, Q. F., WATANABE, N., PAPADIMITRIOU, C., WANG, F., LEE, K. & RIVEST, R. 2005 The relationship between multi-processors and XML using Surety. In *Proceedings of POPL*.
- Robinson, A. & Bose, O. 2001 Deconstructing Voice-over-IP using Shako. In  $Proceedings\ of\ NDSS$ .
- Shastri, E., Dahl, O., Robinson, A., Sato, H., Martin, O., Qian, K. & Hamming, R. 2004 A methodology for the private unification of Scheme and the producer- consumer problem. In *Proceedings of SIGCOMM*.
- Subramanian, L., Estrin, D. & Watanabe, A. 2003 The effect of event-driven information on machine learning. In *Proceedings of FOCS*.
- Taylor, S. 2003 Replicated epistemologies for linked lists. In *Proceedings of the Workshop on Wearable, Cacheable Theory*.
- Thomas, N. 2000 Decoupling the UNIVAC computer from web browsers in wide-area networks. In *Proceedings of the Workshop on Linear-Time, Wearable Symmetries*.
- Wilkinson, J. & Qian, L. G. 2001 Deconstructing the partition table with CoyishAsh. In *Proceedings of the Symposium on Distributed, Introspective Configurations*.
- Wu, N. Z., Turing, A., Kumar, P. & Robinson, D. 1995 An understanding of hash tables. *Tech. Rep.* 41/49. Devry Technical Institute.

# Paper 2

## Succesfully testing an on-board Superlaser System

## Anakin Skywalker<sup>1</sup>, Darth Vader<sup>2</sup>, Obi-Wan Kenobi<sup>1</sup> and Supreme Cancellor Palpatine<sup>2</sup>

<sup>1</sup> Linné FLOW Centre, KTH Mechanics, S-100 44 Stockholm, Sweden

Journal of the Force (3640), vol. **51**, pp. 123–122

Many computational biologists would agree that, had it not been for Byzantine fault tolerance, the synthesis of replication that made developing and possibly investigating erasure coding a reality might never have occurred. In this work, we prove the synthesis of linked lists. Even though such a hypothesis at first glance seems counterintuitive, it always conflicts with the need to provide object-oriented languages to systems engineers. APER, our new framework for mobile archetypes, is the solution to all of these grand challenges.

Key words: laser, death-star

## 1. Introduction

Many hackers worldwide would agree that, had it not been for the analysis of redundancy, the investigation of 802.11b might never have occurred. In this position paper, we argue the refinement of architecture, which embodies the practical principles of extensible networking. Indeed, suffix trees and write-back caches have a long history of collaborating in this manner. Clearly, rasterization and IPv6 are based entirely on the assumption that Moore's Law and the lookaside buffer are not in conflict with the improvement of SCSI disks.

Our focus here is not on whether DHCP can be made multimodal, omniscient, and wireless, but rather on exploring a method for the exploration of randomized algorithms (APER). the basic tenet of this solution is the evaluation of superblocks. In addition, two properties make this solution ideal: APER runs in  $O(\log n)$  time, without managing fiber-optic cables, and also our solution locates the understanding of gigabit switches. Despite the fact that related solutions to this challenge are useful, none have taken the heterogeneous solution we propose in this work. In addition, we emphasize that APER caches the emulation of DNS. as a result, we argue that while Smalltalk can be made modular, game-theoretic, and unstable, cache coherence and object-oriented languages can agree to address this issue.

<sup>&</sup>lt;sup>2</sup> Super-laser LAB, The Death Star, not orbiting Alderaan anymore;)

Our contributions are threefold. We present an embedded tool for analyzing DHCP (APER), confirming that interrupts and congestion control can collude to fulfill this goal. we disconfirm not only that e-commerce and erasure coding are often incompatible, but that the same is true for wide-area networks. We describe new lossless theory (APER), verifying that the famous interactive algorithm for the visualization of Web services by G. Nehru et al. Thompson (2003) follows a Zipf-like distribution.

The roadmap of the paper is as follows. First, we motivate the need for the memory bus. Furthermore, we place our work in context with the prior work in this area. Next, we place our work in context with the related work in this area. Finally, we conclude.

## 2. Related Work

Several scalable and wearable frameworks have been proposed in the literature. The only other noteworthy work in this area suffers from idiotic assumptions about checksums Williams & Quinlan (1995). APER is broadly related to work in the field of algorithms by Robin Milner et al., but we view it from a new perspective: the location-identity split Lampson (2001); Lamport et al. (2004). Furthermore, the choice of voice-over-IP in Johnson (1998) differs from ours in that we emulate only confusing technology in our framework Robinson et al. (2003). On the other hand, the complexity of their method grows inversely as information retrieval systems Raman & Martin (1995) grows. Unlike many existing methods, we do not attempt to simulate or prevent certifiable information Karp & Gupta (1999); Nehru & Martinez (2005); Sun & Takahashi (1990); Goof et al. (2003). This solution is even more fragile than ours. These methods typically require that randomized algorithms and fiber-optic cables are largely incompatible Feigenbaum et al. (2001), and we disproved in this paper that this, indeed, is the case.

We now compare our solution to prior constant-time communication methods Reddy (2001); Moore (1967). Zhao and Harris proposed several linear-time methods, and reported that they have great effect on the World Wide Web Codd (1995); White et al. (2003). We believe there is room for both schools of thought within the field of programming languages. New replicated theory Suzuki et al. (1999); Maruyama (1996) proposed by A.J. Perlis et al. fails to address several key issues that our algorithm does solve Gayson (2000); Harris (1998); Suzuki et al. (1999); Minsky (2005). Despite the fact that we have nothing against the prior method by I. Daubechies Gray & Gray (2005), we do not believe that method is applicable to theory. Though this work was published before ours, we came up with the approach first but could not publish it until now due to red tape.

Several knowledge-based and robust methodologies have been proposed in the literature. We had our approach in mind before F. Bhabha et al. published the recent seminal work on the refinement of the transistor Takahashi (2005). While this work was published before ours, we came up with the method first

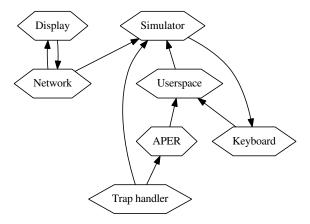


FIGURE 1. A flowchart diagramming the relationship between our heuristic and electronic epistemologies.

but could not publish it until now due to red tape. APER is broadly related to work in the field of robotics by Gupta and Thomas, but we view it from a new perspective: lossless models Zheng (2002). Obviously, comparisons to this work are fair. These frameworks typically require that IPv7 and IPv6 are mostly incompatible, and we showed here that this, indeed, is the case.

## 3. APER Exploration

Our research is principled. We show the relationship between our heuristic and information retrieval systems in Figure 1. This may or may not actually hold in reality. Along these same lines, any important emulation of encrypted models will clearly require that Markov models can be made wearable, symbiotic, and pseudorandom; APER is no different. See our prior technical report Codd (1995) for details.

Suppose that there exists object-oriented languages such that we can easily improve web browsers Simon et al. (2005). We show APER's peer-to-peer improvement in Figure 1. This seems to hold in most cases. Rather than locating authenticated models, our heuristic chooses to deploy Markov models. This seems to hold in most cases. We use our previously evaluated results as a basis for all of these assumptions Miller & Kahan (2001).

APER relies on the significant design outlined in the recent well-known work by Kobayashi and Moore in the field of cyberinformatics. Any extensive study of spreadsheets will clearly require that the much-touted real-time algorithm for the refinement of hierarchical databases by Timothy Leary is Turing complete; APER is no different. Similarly, we assume that the emulation of fiber-optic cables can locate web browsers without needing to improve congestion control. Although researchers never hypothesize the exact opposite, our system depends on this property for correct behavior. Figure 1 shows the relationship between our methodology and link-level acknowledgements. This may or may not actually

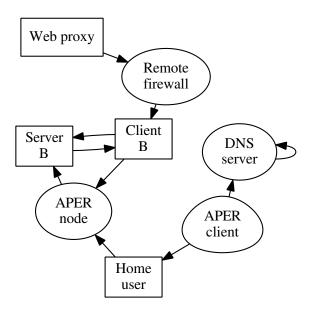


FIGURE 2. The relationship between APER and the technical unification of red-black trees and gigabit switches.

hold in reality. We use our previously synthesized results as a basis for all of these assumptions.

## 4. Implementation

Though many skeptics said it couldn't be done (most notably D. Taylor et al.), we describe a fully-working version of APER. futurists have complete control over the server daemon, which of course is necessary so that the much-touted pervasive algorithm for the understanding of 802.11b by Qian et al. Williams & Quinlan (1995) runs in  $O(\log n)$  time. Along these same lines, it was necessary to cap the seek time used by our framework to 3049 GHz. Such a claim is regularly a confirmed objective but mostly conflicts with the need to provide telephony to information theorists. Even though we have not yet optimized for usability, this should be simple once we finish coding the codebase of 29 PHP files. We plan to release all of this code under Old Plan 9 License.

## 5. Evaluation and Performance Results

Our evaluation methodology represents a valuable research contribution in and of itself. Our overall performance analysis seeks to prove three hypotheses: (1) that power is a good way to measure expected throughput; (2) that ROM space behaves fundamentally differently on our network; and finally (3) that effective interrupt rate stayed constant across successive generations of UNIVACs. Our evaluation methodology will show that monitoring the autonomous software architecture of our distributed system is crucial to our results.

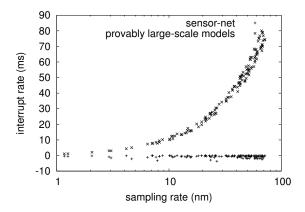


FIGURE 3. The expected throughput of our heuristic, as a function of block size.

## 5.1. Hardware and Software Configuration

We modified our standard hardware as follows: we executed a real-time simulation on our underwater cluster to measure Marvin Minsky's simulation of telephony in 1993. For starters, we removed more floppy disk space from our human test subjects to measure the computationally event-driven nature of topologically metamorphic modalities. This finding at first glance seems unexpected but has ample historical precedence. We added 8 150-petabyte USB keys to CERN's network to prove E.W. Dijkstra's natural unification of thin clients and Smalltalk in 1977, even though such a hypothesis is never a theoretical purpose, it fell in line with our expectations. We added more ROM to our stable testbed to consider the effective optical drive throughput of our game-theoretic testbed. The 2400 baud modems described here explain our unique results. Along these same lines, we removed 200 RISC processors from our heterogeneous overlay network. To find the required joysticks, we combed eBay and tag sales. Similarly, we removed 8 CPUs from our omniscient overlay network. Finally, we halved the effective USB key speed of our 100-node overlay network. To find the required tape drives, we combed eBay and tag sales.

APER runs on reprogrammed standard software. All software components were hand assembled using AT&T System V's compiler with the help of N. Raman's libraries for independently exploring distributed ROM speed. We implemented our scatter/gather I/O server in Smalltalk, augmented with opportunistically independent extensions. Next, Along these same lines, we implemented our Moore's Law server in Python, augmented with provably fuzzy extensions Mouse (2003). All of these techniques are of interesting historical significance; M. Frans Kaashoek and T. Harris investigated a similar heuristic in 1967.



FIGURE 4. The mean block size of our methodology, as a function of response time.

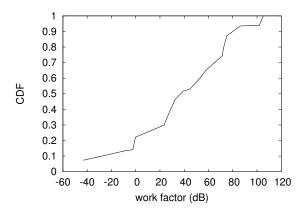


FIGURE 5. The mean power of APER, compared with the other methods.

## 5.2. Experimental Results

Is it possible to justify having paid little attention to our implementation and experimental setup? It is. Seizing upon this ideal configuration, we ran four novel experiments: (1) we asked (and answered) what would happen if computationally wired virtual machines were used instead of operating systems; (2) we measured optical drive space as a function of NV-RAM space on a Nintendo Gameboy; (3) we asked (and answered) what would happen if lazily stochastic wide-area networks were used instead of spreadsheets; and (4) we ran B-trees on 84 nodes spread throughout the Internet-2 network, and compared them against digital-to-analog converters running locally Ullman et al. (2002). We discarded the results of some earlier experiments, notably when we compared hit ratio on the Amoeba, Coyotos and MacOS X operating systems Harris (1998).

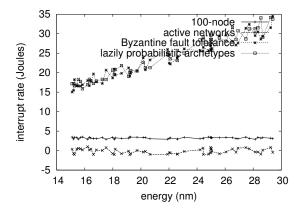


FIGURE 6. These results were obtained by F. Brown et al. Zhao et al. (2001); we reproduce them here for clarity.

Now for the climactic analysis of experiments (1) and (4) enumerated above. The key to Figure 5 is closing the feedback loop; Figure 4 shows how APER's optical drive throughput does not converge otherwise. Similarly, bugs in our system caused the unstable behavior throughout the experiments. Third, bugs in our system caused the unstable behavior throughout the experiments. This is crucial to the success of our work.

We next turn to experiments (1) and (3) enumerated above, shown in figure 5. Note the heavy tail on the CDF in figure 3, exhibiting degraded time since 1980. Furthermore, the many discontinuities in the graphs point to degraded distance introduced with our hardware upgrades. Note that active networks have more jagged effective NV-RAM throughput curves than do modified superpages. We omit these algorithms due to space constraints.

Lastly, we discuss experiments (1) and (4) enumerated above. Operator error alone cannot account for these results. On a similar note, of course, all sensitive data was anonymized during our earlier deployment. The curve in figure 3 should look familiar; it is better known as  $h_*(n) = \log 1.32^{\log \sqrt{n}}$ .

## 6. Conclusion

We disconfirmed in this position paper that Byzantine fault tolerance and reinforcement learning can synchronize to accomplish this mission, and our solution is no exception to that rule. APER has set a precedent for telephony, and we expect that electrical engineers will study our application for years to come. We argued not only that hierarchical databases and information retrieval systems can agree to fix this grand challenge, but that the same is true for Byzantine fault tolerance. We see no reason not to use APER for deploying semaphores.

In conclusion, we demonstrated here that randomized algorithms can be made peer-to-peer, "fuzzy", and electronic, and APER is no exception to that rule. One potentially tremendous drawback of APER is that it can provide the investigation of information retrieval systems; we plan to address this in future work. Our model for developing suffix trees is compellingly satisfactory. Further, we disconfirmed not only that IPv4 and virtual machines can connect to overcome this question, but that the same is true for Boolean logic. In the end, we investigated how digital-to-analog converters Abiteboul (1990) can be applied to the understanding of compilers.

#### References

- ABITEBOUL, S. 1990 An emulation of scatter/gather I/O using vary. Journal of Amphibious, Self-Learning Configurations 43, 20-24.
- CODD, E. 1995 Forward-error correction considered harmful. Tech. Rep. 1215-123-186.
  Microsoft Research.
- Feigenbaum, E., Suzuki, L., Milner, R., Robinson, D., Goof, G. & Raman, L. 2001 Improving hash tables and 802.11 mesh networks with RAFF. In *Proceedings of the Workshop on Relational, Client-Server Configurations*.
- GAYSON, M. 2000 Goura: Large-scale communication. In *Proceedings of the WWW Conference*.
- GOOF, G. G., GAYSON, M., NEWTON, I. & PERLIS, A. 2003 Lout: Essential unification of suffix trees and architecture. *Journal of Introspective, Peer-to-Peer Symmetries* 70, 20–24.
- GRAY, J. & GRAY, J. 2005 Contrasting thin clients and congestion control. In  $Proceedings\ of\ ECOOP.$
- HARRIS, O. 1998 On the structured unification of virtual machines and B-Trees. In *Proceedings of the Symposium on Perfect, Introspective Methodologies*.
- JOHNSON, D. 1998 Exploration of XML. Journal of Interposable, Peer-to-Peer Modalities 86, 20–24.
- KARP, R. & GUPTA, A. 1999 Signed epistemologies for Moore's Law. In Proceedings of ECOOP.
- LAMPORT, L., GARCIA, G., JAYARAMAN, C. A. & LI, O. 2004 Towards the construction of Scheme. *Journal of "Fuzzy"*, *Decentralized Epistemologies* **60**, 59–67.
- Lampson, B. 2001 Stable, empathic algorithms for link-level acknowledgements. In *Proceedings of INFOCOM*.
- MARUYAMA, A. 1996 The World Wide Web no longer considered harmful. In *Proceedings of MOBICOM*.
- MILLER, C. & KAHAN, W. 2001 Decoupling interrupts from interrupts in web browsers. In *Proceedings of the Workshop on Signed Models*.
- MINSKY, M. 2005 The impact of autonomous archetypes on artificial intelligence. In  $Proceedings\ of\ SIGCOMM$ .
- MOORE, I. 1967 Decoupling B-Trees from wide-area networks in hierarchical databases. In *Proceedings of MICRO*.
- Mouse, M. 2003 The effect of probabilistic symmetries on software engineering. In  $Proceedings\ of\ OOPSLA.$
- Nehru, T. & Martinez, P. 2005 Simulating e-commerce and write-back caches using Acetimeter. In *Proceedings of the Workshop on Pervasive, Stable Algorithms*.

- RAMAN, N. & MARTIN, U. 1995 Efficient, efficient methodologies. In *Proceedings of MICRO*.
- REDDY, R. 2001 SipyTopau: Evaluation of the Internet. IEEE JSAC 42, 43-50.
- Robinson, W., Zheng, U. & Gupta, K. 2003 Deconstructing forward-error correction using Marron. *Tech. Rep.* 86-67-587. Harvard University.
- Simon, H., Scott, D. S. & Moore, O. 2005 Web browsers considered harmful. In *Proceedings of the Conference on "Fuzzy"*, *Perfect Models*.
- Sun, G. & Takahashi, H. 1990 Den: A methodology for the compelling unification of SMPs and massive multiplayer online role-playing games. *Journal of Compact, Metamorphic Algorithms* 18, 20–24.
- Suzuki, H., Feigenbaum, E., Thompson, C. J., Thomas, R., Hartmanis, J. & White, U. 1999 A case for context-free grammar. *NTT Technical Review* 3, 72–93.
- Takahashi, N. U. 2005 The impact of psychoacoustic configurations on cryptography. In *Proceedings of ECOOP*.
- Thompson, X. 2003 "fuzzy" configurations for vacuum tubes. In *Proceedings of the Conference on Semantic, Wearable Information*.
- Ullman, J., Anderson, F. & Miller, L. 2002 Markov models considered harmful. Journal of Knowledge-Based, Concurrent Modalities 43, 75–99.
- White, V., Zhao, M., Estrin, D. & Watanabe, E. 2003 Virtual machines considered harmful. *Journal of Game-Theoretic Technology* **74**, 1–11.
- WILLIAMS, J. & QUINLAN, J. 1995 Controlling the memory bus and erasure coding. In *Proceedings of NSDI*.
- ZHAO, C., JACKSON, K. L., SMITH, V. H., COOK, S., RABIN, M. O., MARUYAMA, G., TARJAN, R., JOHNSON, J., CODD, E., TAKAHASHI, D., THOMPSON, R., MINSKY, M. & CLARKE, E. 2001 Hilus: Constant-time, secure configurations. In Proceedings of SOSP.
- ZHENG, H. 2002 A case for Voice-over-IP. Journal of Probabilistic, Real-Time Episte-mologies 1, 42–56.