lopoco

low power systems

Team

- Andrew Sharp, CEO and co-founder.
  Engineer and Manager in the server business since the mid-1980s

- Peter Theunis, Co-founder and CTO.
  > 10 years of experience in large scale systems deployments

- Jack Mills, VP of Engineering. (Advisor)
  Architect of the Pentium and Itanium processors at Intel; former Director of advanced processor research at Intel

- Mark Brine, CFO. (Advisor, Board member)
  Director of Finance at Cloudera.

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Problem

WASTEFUL!

Conventional servers waste **more than 1/2** the power they consume

- 100s of millions of $$ for large data centers
- Not great for SMBs either

Solution

Lopoco Ultra-efficient servers
1/4 the power of conventional servers

- >50% Reduction in Data center OpEx
- **Lopoco** servers run cool and quiet => more reliable
- Less power => greater server density

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Conventional Rack
8.1 KWatt Power

20 Servers

Lopoco Rack
8.1 KWatt Power

80 Servers

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Irresistible Value Proposition

Savings per year on just electricity costs

12c/kWH

Servers/yr	100	1,000	50,000
Conventional	$42,500	$425,000	$21,250,000
Lopoco	$10,500	$105,000	$5,250,000
Savings	**$32,000**	**$320,000**	**$16,000,000**

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Irresistible Value Proposition

Total Savings - Large Data Center

3 year estimated

20k Servers	$50/watt	$75/watt
Conventional	$175,000,000	$262,500,000
Lopoco	$50,000,000	$75,000,000
Savings	**$125,000,000**	**$187,500,000**

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Traction & Validation

Revenue to date: $75k [Oct 4 2013]

- Named “Most Efficient Server” tested to date by Power Assure Corporation

- 75% repeat customers

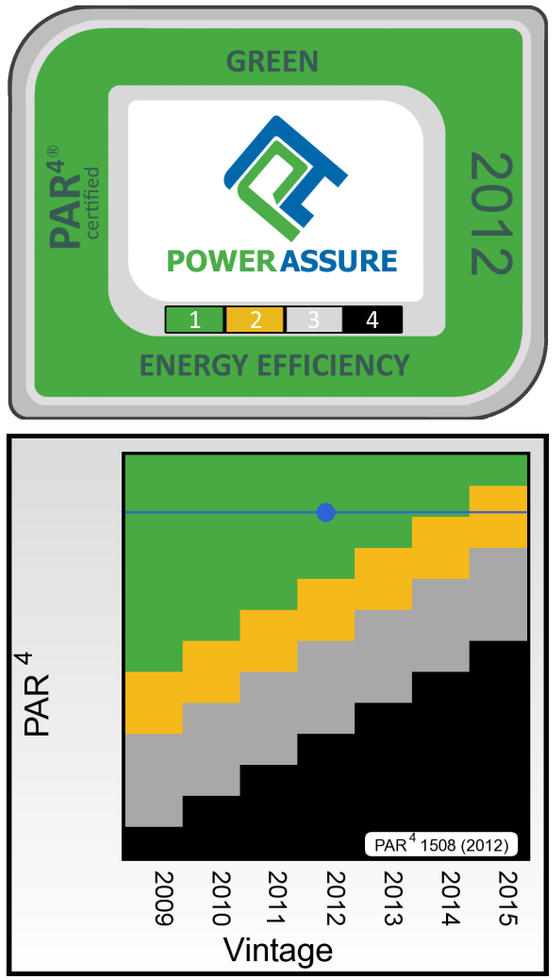
- over 60 systems shipped

PAR4® - Energy Efficiency Certification

Sample Card Number: PA20130905220238001
Date: 2013-09-05

Machine Specification:

Lopoco LP-4250 LP-4250-6H
1 intel Xeon E3-1265L V2 @2.5GHz, 4 cores
2 Kingston 9965525-018.A00LF 4GB @1333MHz
6 WDC WD10JPVT-00A SATA 1000GB @5400RPM
1 generic low-power @200W



Results:

Vintage PAR4:	1,508
Vintage Year:	2012
PAR4 Rating:	GREEN
Absolute PAR4	2,108
3 Year Cost (Est):	$91.46

Power Consumption Details				
OFF	IDLE	LOADED	PEAK	BOOT TIME
7.489W	**26.61W**	**67.57W**	**67.57W**	**84s**
121.7V	121.8V	121.9V	121.9V	
0.184A	0.286A	0.583A	0.583A	
0.3PF	0.8PF	0.9PF	0.9PF	

Customers

LIGHT & MOTION

pogoseat

methodics™

Datafiniti
The Search Engine for Data

SYMSOFT SOLUTIONS

sanjoseca.gov

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Competition

SeaMicro (nee AMD), Moonshot, Calxeda, Servergy

All are selling a product customers don't want:

- Proprietary hardware
- Custom silicon
- Not efficient!
- Weird processors, weird form factors, just weird

	SeaMicro	OCP	Calxeda	Servergy	Moon	Lopoco
Low Power						✓
Efficiency Gain	20%	15%	?	?	?	75%
X86	✓	✓			✓	✓
No Custom Silicon		✓				✓
No Custom electronics						✓
64-bit	✓	✓		✓	✓	✓
VM acceleration	✓	✓				✓
Standard Form Factors						✓
ASP	$1m	$20k	$200k	?	$200k	$2.5k
Customers	✓	✓	?		?	✓
Shipping	✓	✓	✓		✓	✓

Moon = HP Moonshot

OCP = Open Compute Project

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Market

- Current global server market > $50bb. Expected to grow to $100bb in 5-8 years
- Lopoco style servers predicted to be 80% of market in 5-8 years => $80bb
- Not targeting HPC market

Market Strategy

- Direct sales
- VAR and reseller channels TBP after funding close

Exit

- Highly disruptive product: acquisition most likely
- $400mm revenue/yr in 3 years = acquisition valuation of $2bb
  1000 servers ~= $2.5m
  Over 100 NA customers buy in quantities > 1000/month

- Similars:
  - $2bb Cobalt Systems, purchased by Sun in 2000
  - $335mm Seamicro, purchased by AMD in March
  - $1bb Wyse Technology (low power desktops) purchased by Dell in August 2012