RampRate Benchmark & Strategic Guidance for SAMPLE CLIENT

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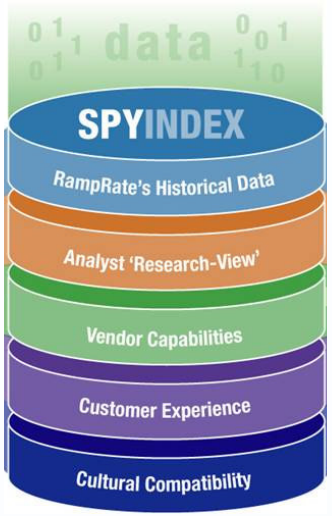
A Decision Hub for IT Outsourcing



Enables

RampRate Services

- Benchmarking
- Procurement Services
- Lifecycle Management
- Planning & Analysis

For

RampRate Clients

RampRate™ Sourcing Advisors Strategic Research

Media/Broadcast

Finance

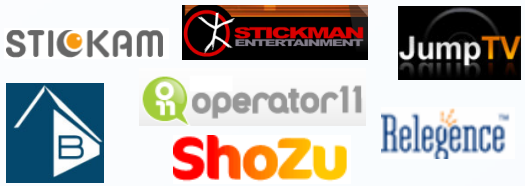
High-Tech

Gaming

Publishing

Internet/E-Commerce

Web 2.0



Telecommunications

RampRate's Hosting/Co-Location Practice

Deep Knowledge of Hosting / Data Center Infrastructure

- More than 100 years of combined experience running, using, and analyzing hosting
- Pedigrees include leadership positions at AT&T, Carlyle Group, Exodus, others

50+ Data Center Locations Assessed and / or Procured Last Year

- Total contract value of placed services exceeds $2.4b
- Hundreds of vendor quotes collected
- Strong repeat business and credibility in buyer and seller communities

Experience with Optimizing for Every Client Need

- Cost reductions of up to 57% without changing providers
- Time to market reductions by weeks or months
- Industry's most stringent demands for power, cooling, connectivity
- Target geographies as narrow as 3 miles (urban) and 40 miles (suburb / rural)

Key RampRate Functions in Data Centers

Benchmark / Audit

- Review cost structure / allocation and compare to market, peers, end-user needs
- Recommendations on cost reduction / efficiency increases
- Recommendations on justification of cost / promotion of non-financial metrics

Site Pre-selection

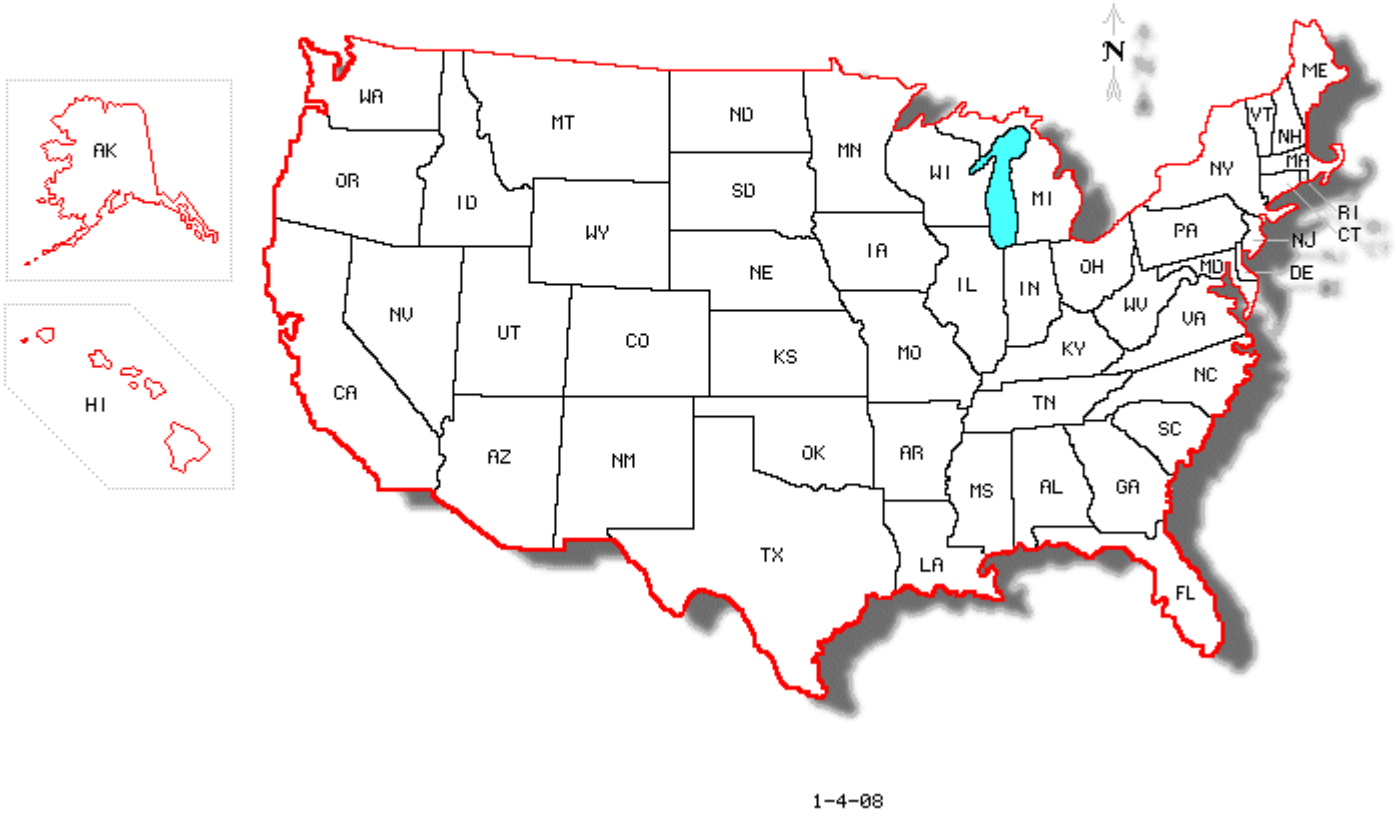
- Regional mechanisms – based on tax, power sources / costs, number / type of providers
- Local mechanisms – based on vendor reputation, facility tier and quality, distance to client

Procurement

- Apples-to-apples comparisons of both vendors and offers
- Balanced scorecard to evaluate cost vs. SLA vs. location vs. vendor stability / support, etc.
- Negotiation services that build solid, long-lasting relationships that are almost never terminated before contract expiration (98% success rate to date)

Example Site Selection: US at State Level (Similar Mechanisms Exist for EU)

Use Presentation View for Demo



Data Center Benchmark and Strategy for CLIENT

SAMPLE DELIVERABLE

Executive Summary -- Top Line Results

CLIENT Does not Publicize its Best Qualities Adequately

- Cost often bundles elements that are not included in competitor offerings
- Top-line SLA metrics *appear* to be below market due to stringent measurement methods
- No material deficiency in *actual* service levels
- Recommendations:
  - Increase number of SLAs tracked and publicly promote each metric tracked
  - Create and maintain a client portal to directly demonstrate service quality
  - Use commonly accepted definitions for terms like “uptime” for apples-to-apples benchmarks
  - Develop a competitive strategy and externally-validated answers to client objections

Value of CLIENT vs. Market Varies Greatly by Buyer Type

- Some elements are priced way below market; others moderately / significantly above
- One-size-fits-all model very favorable to: small, dense buyers with stringent SLA
- Large properties, low density hardware, and low SLA needs can do better elsewhere
- Recommendations:
  - Introduce a more nuanced pricing model with service level and size-driven tiers
  - Reallocate costs from above-market ones (e.g. space) to below-market ones (e.g. power)
  - Change charge model for data center space costs to a per-kilowatt basis

Executive Summary - Top Line Results

CLIENT has Difficulties in Forecasting Costs Accurately

- Retroactive charge model gives ,… for service owners to plan ahead well
- Extremely rapid growth forces compromises rather than bargain-hunting
- Budgeted expenses ,… even as a rough guideline when growing
- Recommendations:
  - Introduce incentives for capacity to be reserved – funded by commitments to vendors
  - Develop a “reasonable” budget in addition to the “optimistic growth” budget in place
  - Develop criteria for tactical outsourcing when specific sites fall below current costs

Leasing 3rd Party Space can Bring Tactical Value

- Savings of up to X% conceivable for a large but less-demanding buyer
- Smaller or highly latency-sensitive properties would not do as well
- Rapid expansion biggest barrier to ,… facilities / networks
- Inability to identify / split out low-requirement properties biggest barrier for bandwidth
- Recommendations:
  - Develop a performance ,… bandwidth to source to low bid at <$X / mbps
  - Identify costs of a “bare-bones” cost structure for properties ,… services
  - Develop a request for quote with RampRate to identify tactical growth opportunities

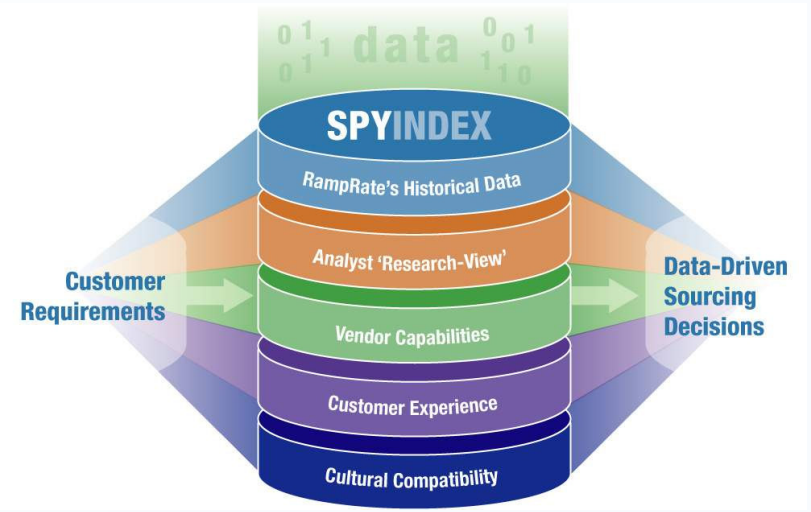
Benchmark Project Methodology

CLIENT Comparison Against Outsourced Data Center Services

- Large sample size – hundreds of real-world quotes for space, power, labor, etc.
- Quantitative conclusions
- Price benchmark
- Comparison of service level guarantees in contract
- Comparison of actual performance vs. guarantee when available

Comparison Against In-sourced / Shared Services Organizations

- Includes peers in the financial services industry
- Smaller sample size
- Focused on best practices
- Focus on outcome, not contract
- Qualitative conclusions



Top-Line Performance Graph by Line Item

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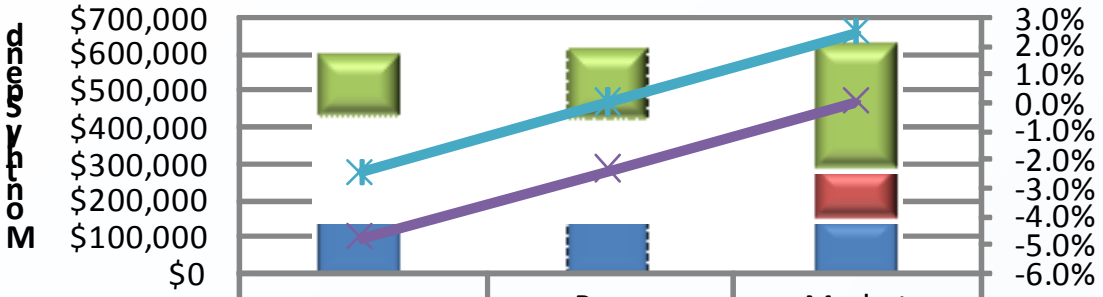
Overall Data Center Spend



	Client	Peer Average	Market Median
Labor (on-site only)	$170,000	$190,000	$340,000
Power (per kwh)	$130,000	$75,000	$140,000
Space (per KVA)	$300,000	$350,000	$150,000
vs. Market	-4.8%	-2.4%	0.0%
vs. Peer	-2.4%	0.0%	2.4%

Total Data Center budget for 2 core DCs is 4.8% lower than market, 2.4% lower than peers

Space costs are above market (due to location); power / on-site labor below

Internal costs likely overestimated for power / underestimated for labor

Top-Line Performance Graph: Labor Excluded

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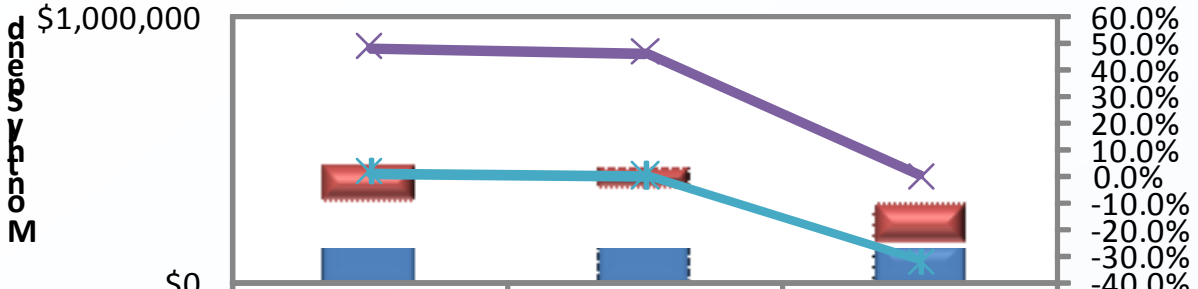
Non-Labor Data Center Spend



	Client	Peer Average	Market Median
Power (per kwh)	$130,000	$75,000	$140,000
Space (per KVA)	$300,000	$350,000	$150,000
vs. Market	48.3%	46.6%	0.0%
vs. Peer	1.2%	0.0%	-31.8%

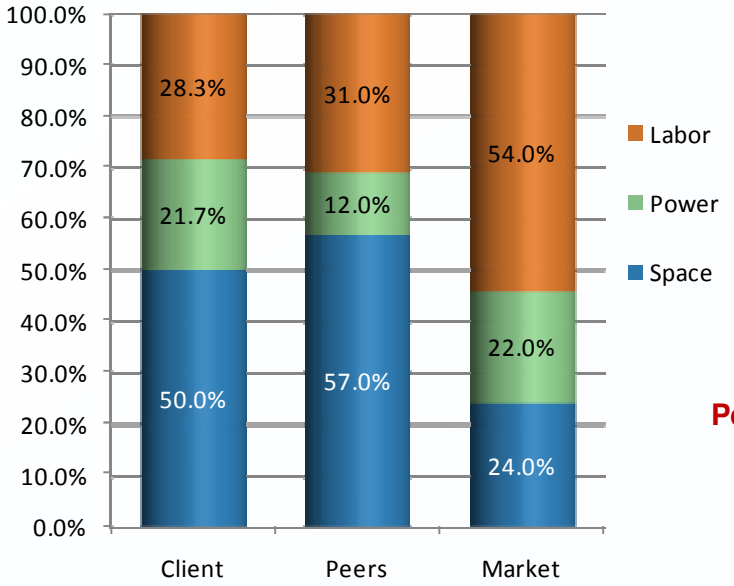
Tactical local co-location could save CLIENT 48% or more on facilities

Both Loc1 and Loc2 Central appear higher than market

As with peers, Tier IV vs. Tier III data center needs play a role

Budget Allocation

Budget Allocation Averages - "System Costs" Excluded



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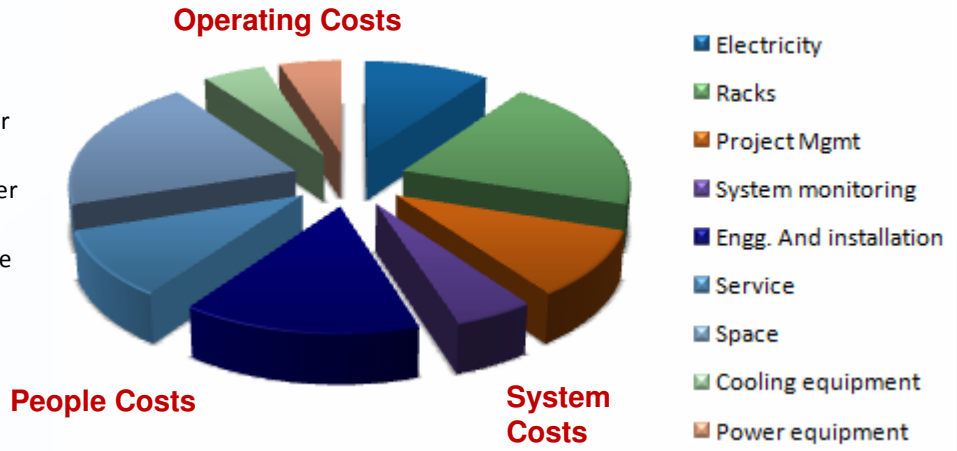

This analysis does not adjust costs for volume, but uses raw numbers – differences come from staffing / real estate space used, not unit rates

Market rates represented in more detail in the chart to the right.

Primary takeaway: budget structure masks weight of labor in overall cost levels

Top-Line Performance Graph by Line Item

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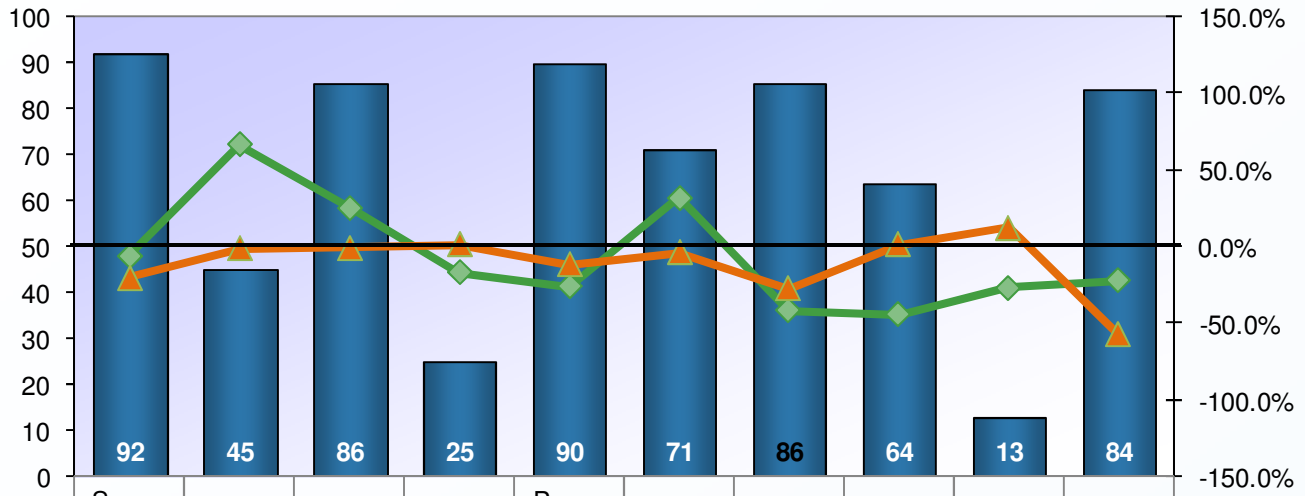
Client Performance Vs. Market & Peers



	Space per Rack	Square Foot	Space per KVA	Power per kwh	Power per Amp at 110V	Mbps	Tier 1 Labor	Tier 2 Labor	Tier 3 Labor	Disk Storage
Percentile in Market	92	45	86	25	90	71	86	64	13	84
Vs. Market Median	-5.9%	66.7%	25.0%	-17.1%	-25.9%	31.8%	-41.7%	-44.4%	-26.8%	-22.2%
Vs. Peer Average	-20.6%	-1.6%	-0.5%	1.1%	-12.0%	-4.0%	-27.3%	1.2%	12.3%	-57.5%

Percentile: If CLIENT were a vendor, what % of offers would be lower than its rates?

Vs. Market Median: How much above / below 50th percentile would CLIENT's offer be?

Vs. Peer Average: How do CLIENT costs compare to average of peer costs?

Detailed Summary

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Category	Metric	Quantities / Unit Rates per Month				Notes
		CLIENT Quantity	CLIENT Rate	Peer Average	Market Median	
Space	**Useable Sq. ft.**	99282	$14.48	$6.89	$2.35	Metrics not defined properly in internal measurement system
	or Racks / Cabinets	1637	$155.23	$145	$65.00	Metrics absent from internal systems and were extrapolated
	or KVA to Equip*	4010	$69.48	$61	$56.8	Best comparison
Power	**kwh used by IT Equipment***	26374	$0.24	$0.18	$0.26	Metrics absent from internal systems and were extrapolated
	OR Amps at 110V	36616	$17	$15.54	$17.80	
Labor	**Level 1 Hours**	161334	$67	$99.45	$120.00	Market: 24x7 on-call premium
	Level 2 Hours	78000	$12	$10.59	$109.00	
	Level 3 Hours	78000	$118	$121.13	$122.00	
Storage	**GB - Disk**	12,393,748	$4.9	$17.56	$6.00	Small sample for peers - <10 data points
	GB - Tape	2,075,995	$0.41	$0.23	$0.12	Small sample for market - <20 data points
Network	**Mbps of IP Transit**	300	$36.28	$35.00	$29.00	

* Preferred Metric.

Shaded cells indicate more data is required

SAMPLE Detailed Drill-Down for CLIENT

Space – Price per Rack

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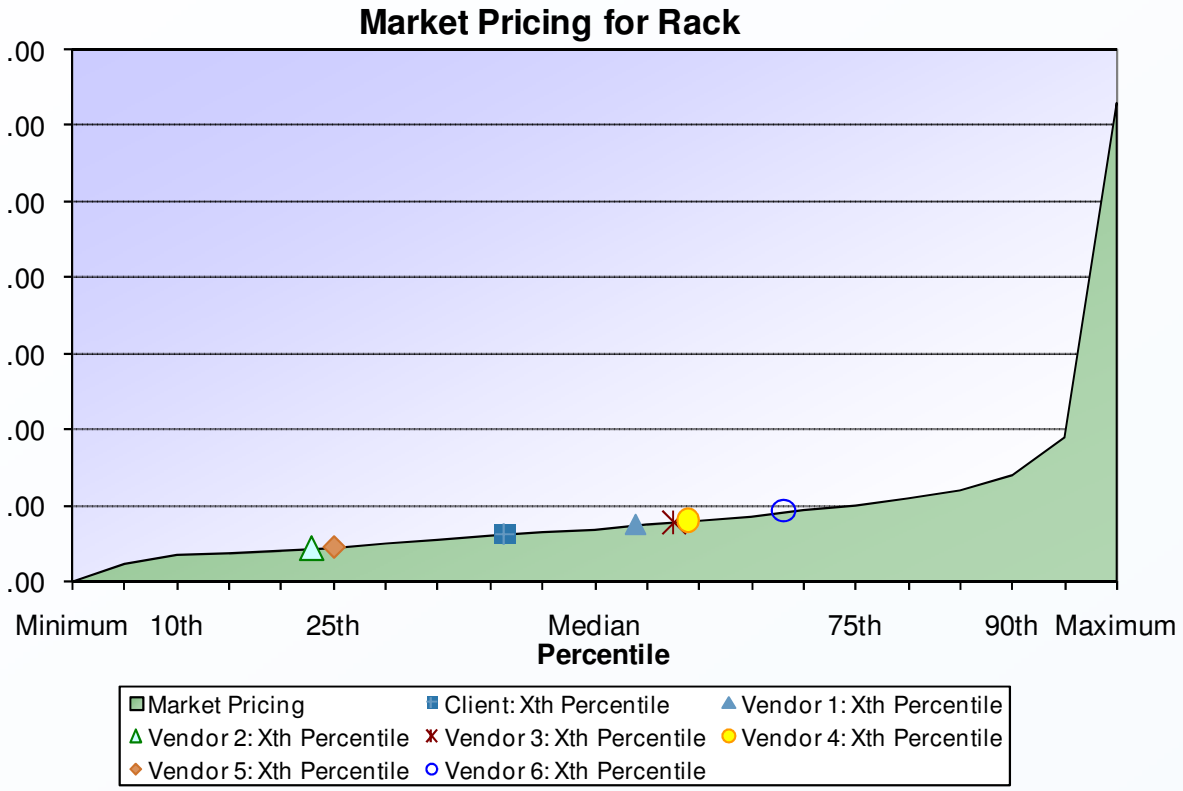
Benchmark of Price per Rack / Cabinet or equivalent footprint

- Rack count estimated from known KVA loads based on 2.45 KVA / rack
- CLIENT is in the Xth percentile, Y% below median



Space – Price per Square Foot

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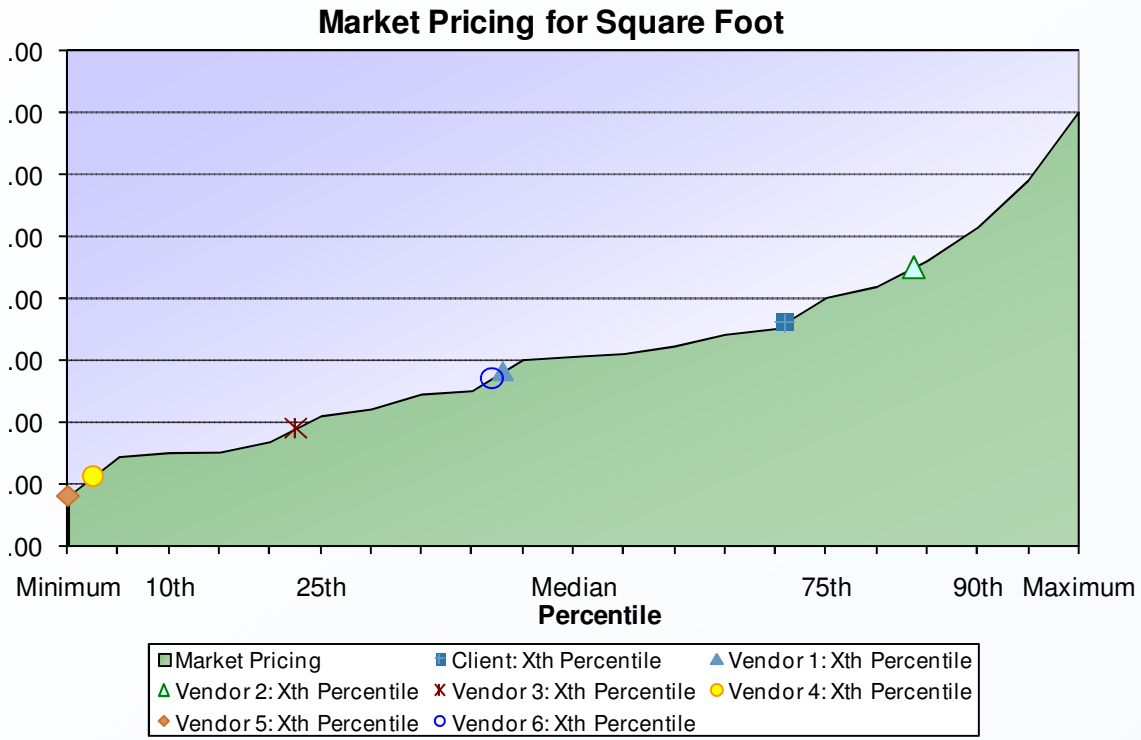
Benchmark of Price/Useable Sq. ft.

- Rate calculated by dividing real estate costs by estimated useable square footage
- Useable square footage estimate based on x sq ft per rack
- CLIENT is in the Xth percentile Y% above median



Space – Price per-Kw hosted

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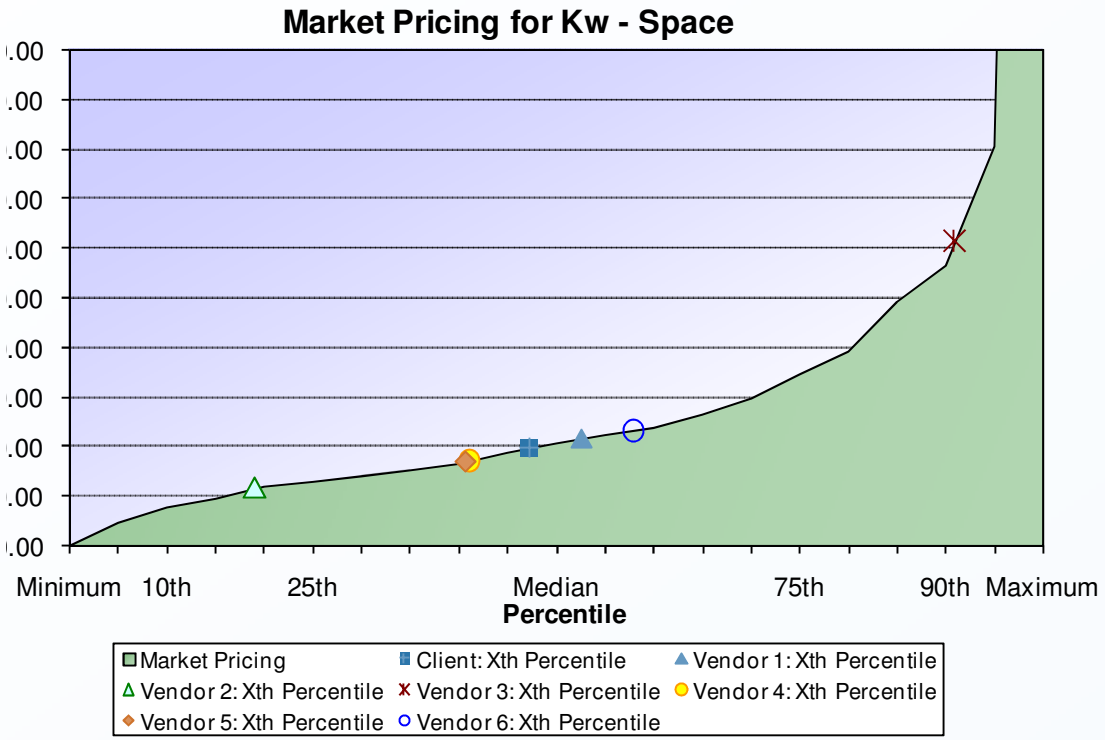
Benchmark on a Per-Kw Basis is the Most Advanced Way of Tracking Costs

- Data center market is fundamentally constrained by power / cooling, not physical space
- Pricing per Kw allows apples to apples comparisons between modern (high density) and legacy data centers
- By this metric, CLIENT is in the Xth percentile, Y% below median



Power Costs per Kwh

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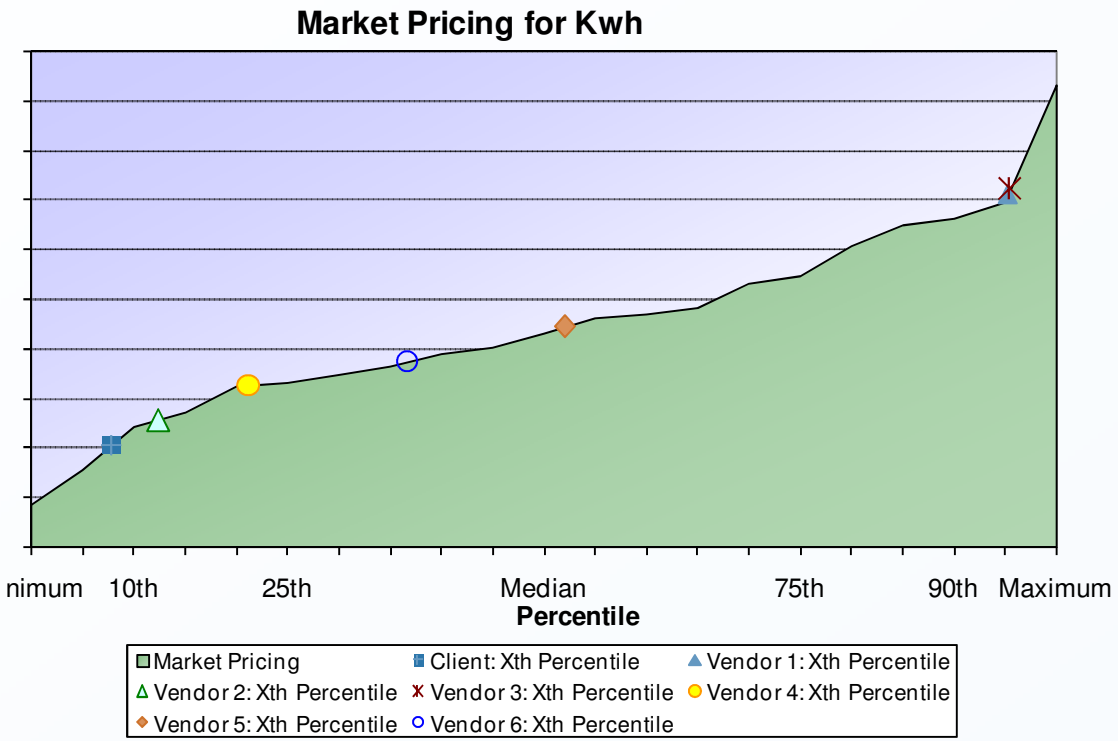
Benchmark of Power Pricing Based on Actual Usage and Utility Bills

- Assumes that average usage is X% of peak
- Considers actual utility bills – which may be inaccurate for locations with office space
- CLIENT is Y% below median in the Xth percentile despite this overhead
- Any further reduction would likely require geographic relocation
- Market pricing trend is upwards, so maintaining these costs will be a win



Power Costs per Amp

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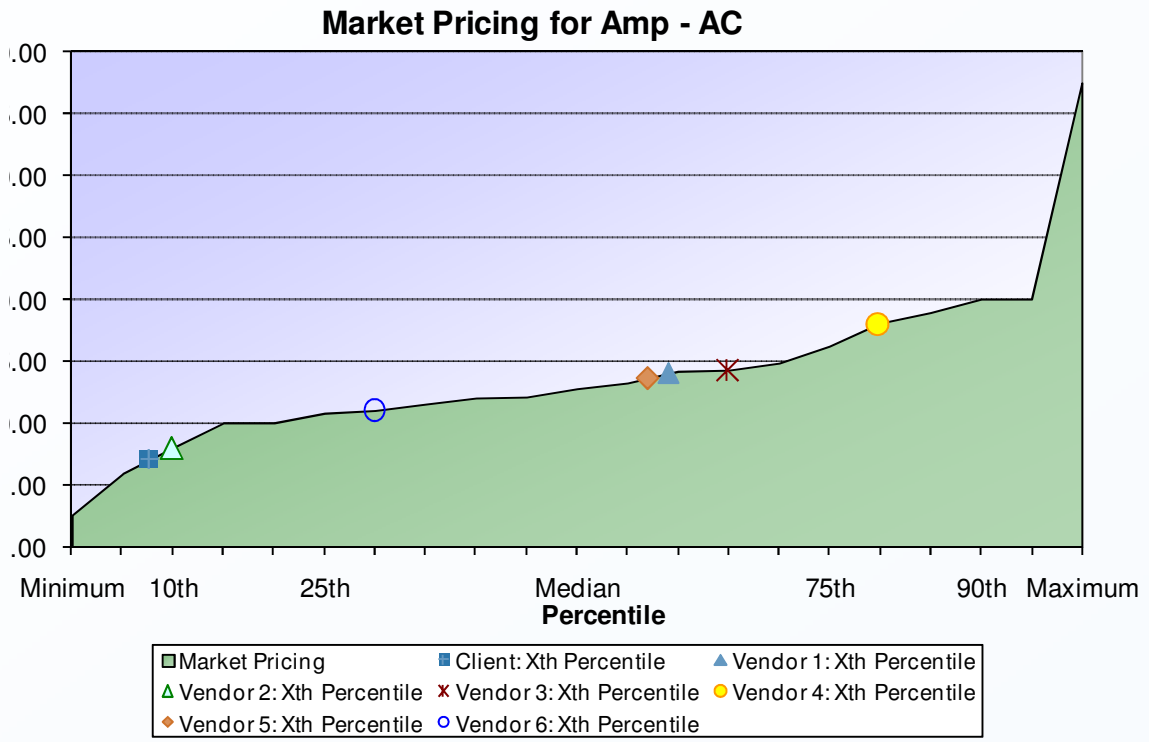
Benchmark of Power Pricing Based on Amperage of Rack Circuits

- Assumes that peak loads are X% of rated amperage
- More precise estimate than on a per-kwh basis
- More popular (but less favorable to buyers) charging model in the broad market
- CLIENT is at Xrd percentile, Y% below median



Labor: Primarily On-site Remote Hands

Benchmark of Labor 1 – Significantly Below Median, on par With Peers

- Below market cost for first-level support (Xth percentile, Y% below median)
- Rates assume X hours of annual productive labor / non-manager FTE
- Rates include management overhead & G&A
- Market charges a premium based on 24x7 availability & rapid response time
- Peer organizations & Client assume X% utilization – which may or may not be real

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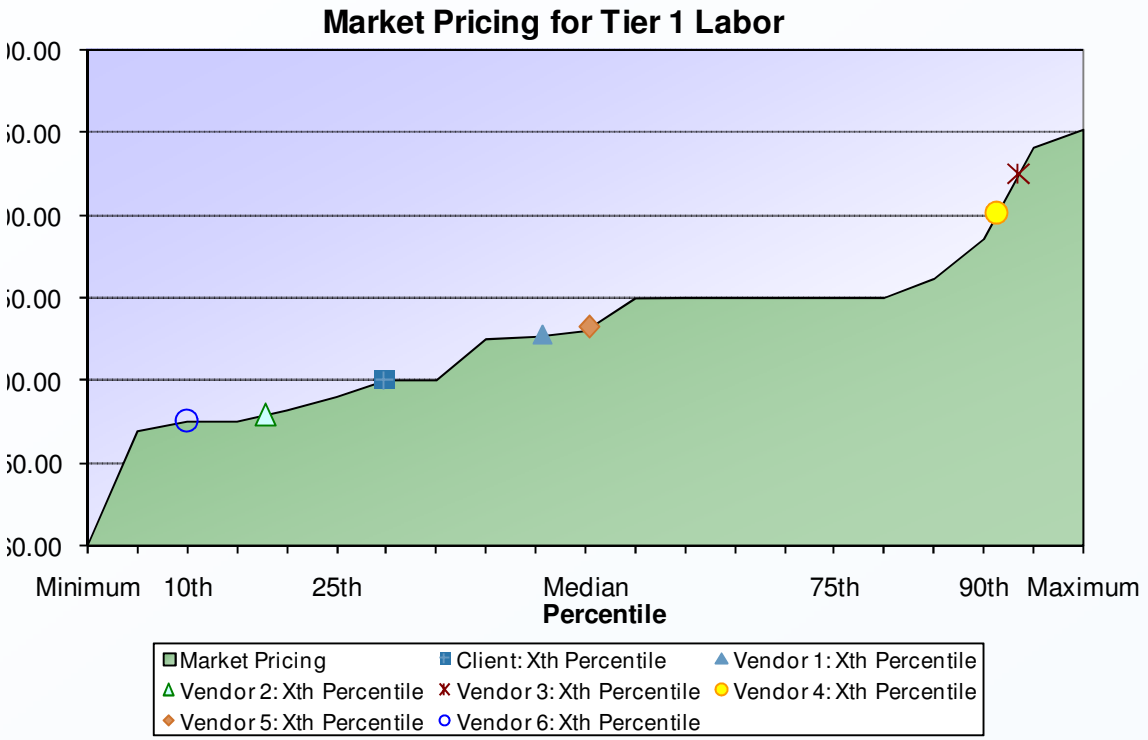

Storage: Disk

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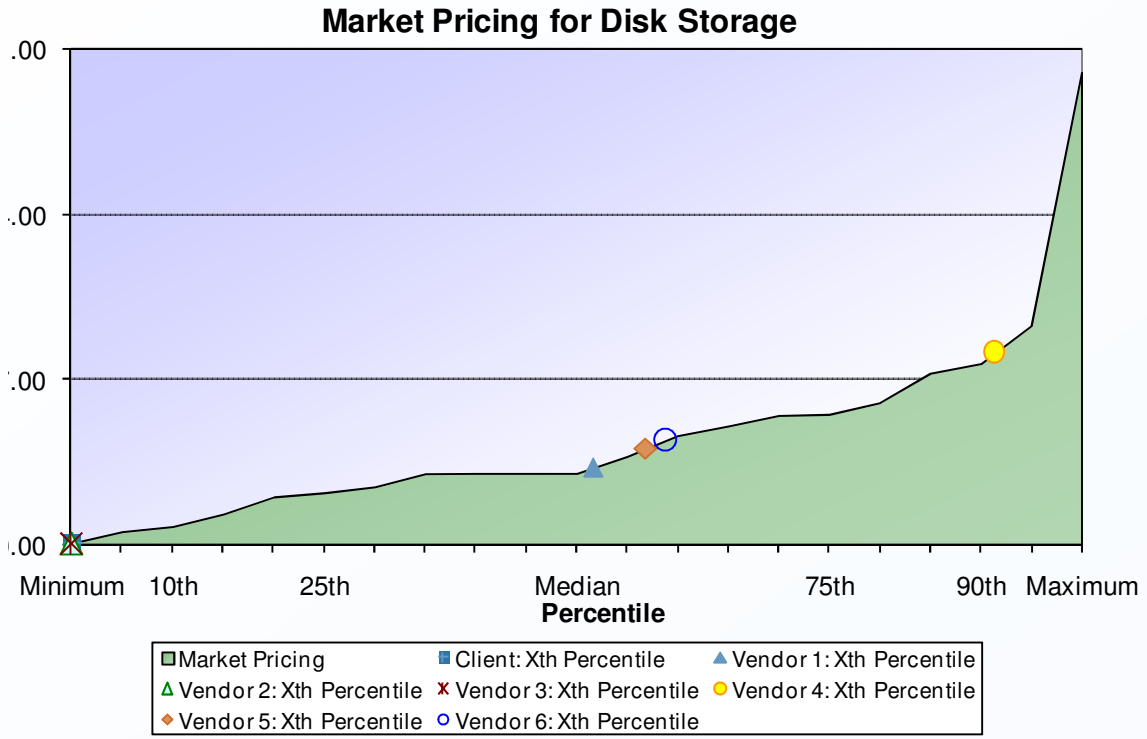
Cost per 1GB per Month on a Redundant SAN or NAS-based Storage Utility

- CLIENT cost calculated based on weighted average of chargeback rates
- X^{th} percentile, Y% above median
- Sample too small for tape-based storage curve (market charges per drive, not GB)



Source: RampRate, 2007

Network: 1 Mbps of IP Transit

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Cost per 1 Mbps of Traffic to the Internet Cloud

- Xth percentile; Y% below market – primarily due to vendors selected
- Significantly higher than peers
- WAN expenditures are based on custom route pricing that's not easily benchmarked

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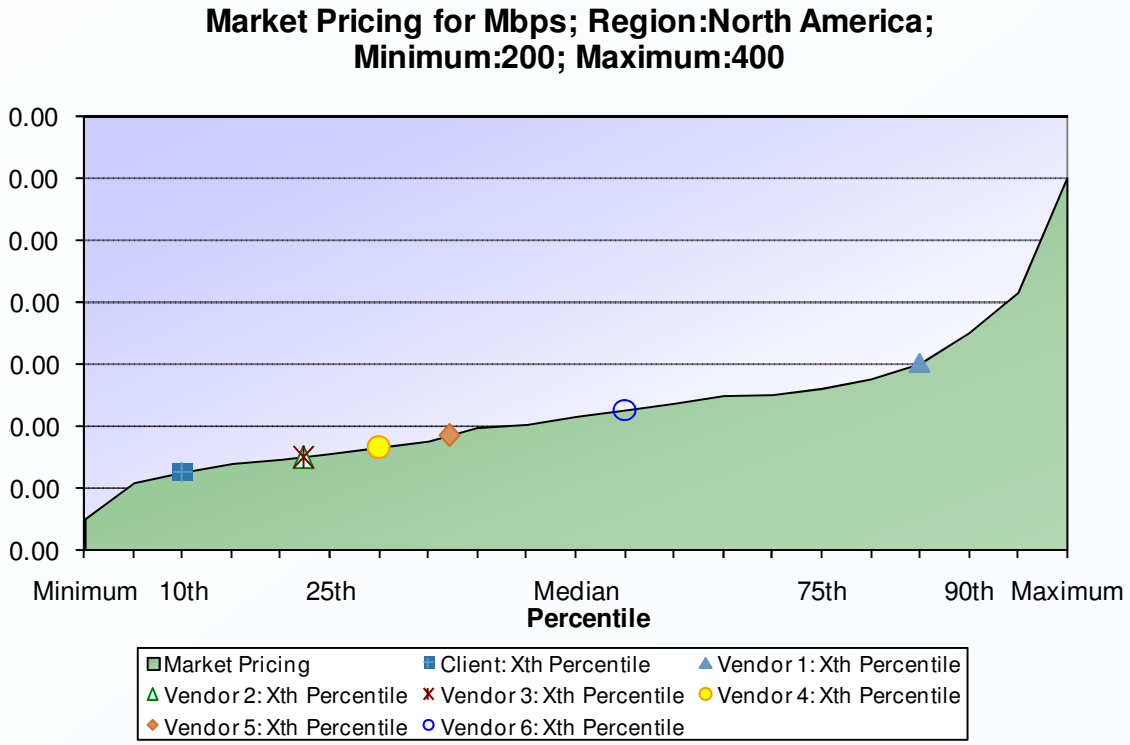


Follow-On Study: RampRate Data Center Greening

RampRate's Green Data Center Commitment

Made as Part of Clinton Global Initiative and The Green Grid

Reduce Client Investment in Non-Renewable Energy by $10M

- At current electrical rates, a reduction of ~100 million kilowatt hours
- Translates into:
  - 152,000,000 pounds of CO2 emissions
  - 800,000 pounds of SO2
  - 490,000 pounds of Nitrogen Oxide

3 Levels of Client Commitment to Data Center Emissions Reduction

- Efficiency Improvement – green initiatives align with cost reduction
- Tiebreaker – green data centers are given a preference other factors being equal
- Sacrifice – business forgoes benefit or incurs cost to gain environment impact

RampRate's Focus: Efficiency Improvements and Tiebreakers

- Vast majority of data center greening can be achieved with neutral or positive impact on the bottom line

4 Current Paths Being Implemented with Clients

IT Hardware Efficiency

- Which servers are used? Are they the right fit for the business task?
- Consolidation / upgrades of servers to blades, dual core, DC-powered systems
- Virtualization to reduce power-intensive resource utilization such as CPU and I/O

Data Center Infrastructure Efficiency

- Is the UPS and HVAC equipment sized right for current / upcoming needs?
- Is Tier 4 (2N+2) redundancy really needed in all the data centers?
- Are business users encouraged to monitor and manage power consumption?

Geographic Efficiency

- Is the data center located in a geography with low HVAC costs and renewable power?

Data Center Vendor Tiebreakers

- Is the vendor on an environmentally friendly grid?
- Does the vendor use geothermal heat exchange or similar for cooling?
- Does the vendor use renewable energy for backup power?

Case Studies / Inefficiencies Remedied to Date

Fortune 100 Global Media Company

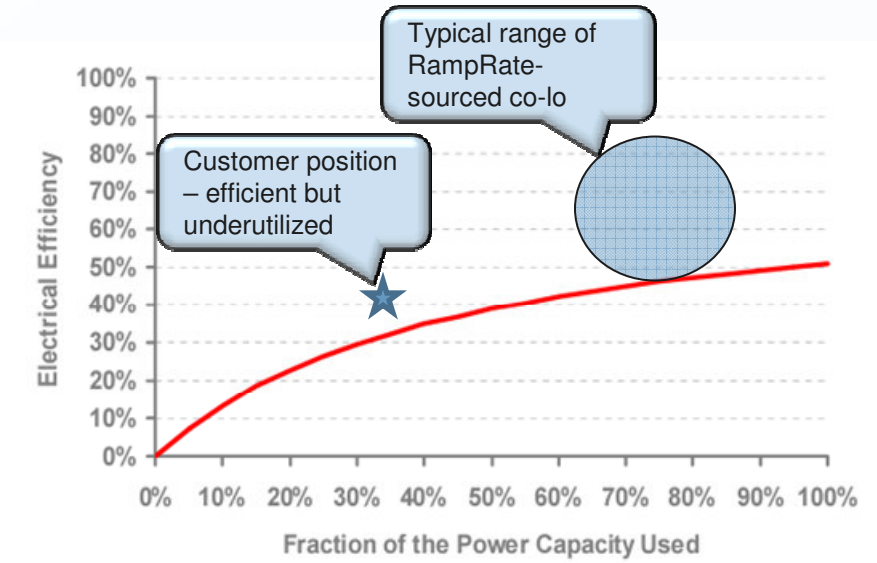
- Benchmark revealed misaligned incentives for internal customers – power was "free"
- Designed new pricing structure to weight power consumption appropriately

Major Financial Services Firm

- Challenged universal Tier 4 mandate
- Separation of mission-critical from other hardware to improve efficiency by 10%+

Another Financial Services Leader

- Found 0%-20% CPU utilization in distributed computing grid benchmark
- I/O gating factors to be examined to develop remediation plan



Source: Rasmussen, Neil. "Electrical Efficiency Modeling of Data Centers ."

Buying Guidance Towards Lower Emissions

- Directed initiatives towards Pacific Northwest (65%+ is hydro) and France (78% nuclear)
- Identified vendors that were best in class in managing power use
- Helped source co-lo using DC power and closely coupled cooling for high-density blades

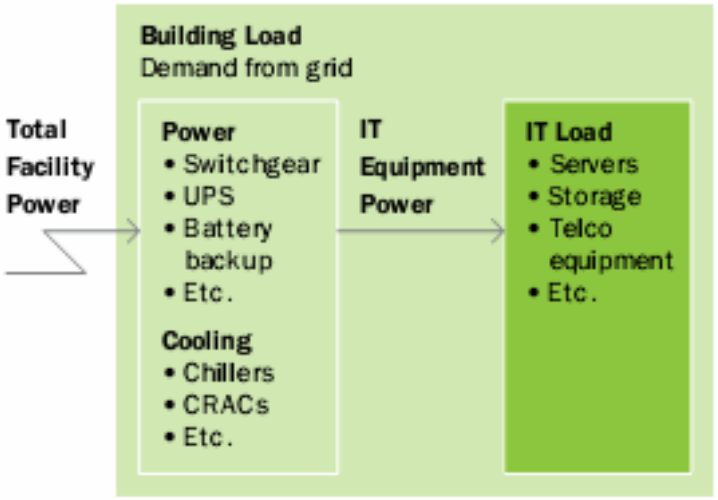
Partnership Strategy for Metrics

RampRate™ Sourcing Advisors Strategic Research

Application of Green Grid's PUE and DCE ratings

- Benchmarking against peers by data center tier, configuration, use scenario
- Drill-down and remediation

PUE: Power Usage Effectiveness
DCE: Data Center Efficiency



$$PUE = \frac{\text{Total Facility Power}}{\text{IT Equipment Power}}$$

$$DCE = \frac{1}{PUE} = \frac{\text{IT Equipment Power}}{\text{Total Facility Power}}$$

"Processor to Riverbed" Model

- Early stage joint project with top high-tech firm
- Detailed drill-down into environmental impact of each IT decision
- Findings to be validated with broad peer group

Research for Political Action Groups

- Should governments provide incentives / tax breaks for green IT decisions? If so, how?

RampRate's Buying Ecosystem

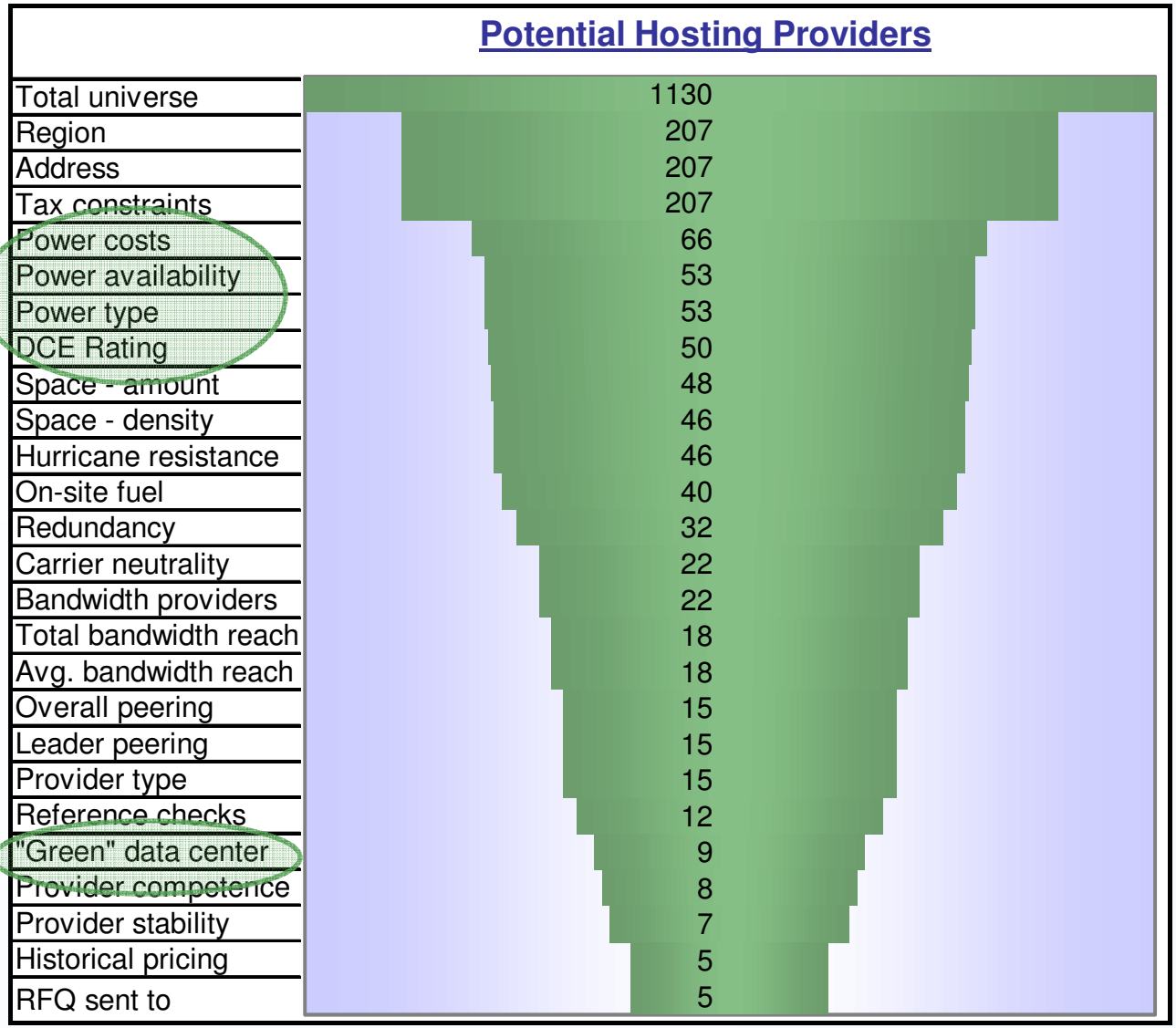
- Green fit rating for SPY Index
- Enforcing pricing models that fight over-provisioning of power as a profit driver

Continued Refinement of Clinton Global Initiative Commitments

Fit of Environmental Metrics in Pre-qualification

Essential Part of Broad-Based Searches

- Used more when specific location is not essential
- Disaster recovery is top scenario
- Difficult in geographically constrained deployments



Further Initiatives On Tap

Optimization of Physical Layout of Facility

- Going beyond the hot-aisle / cold-aisle to model and optimize airflow
- Commitment to closely coupled cooling projects

Data Center Infrastructure Fit

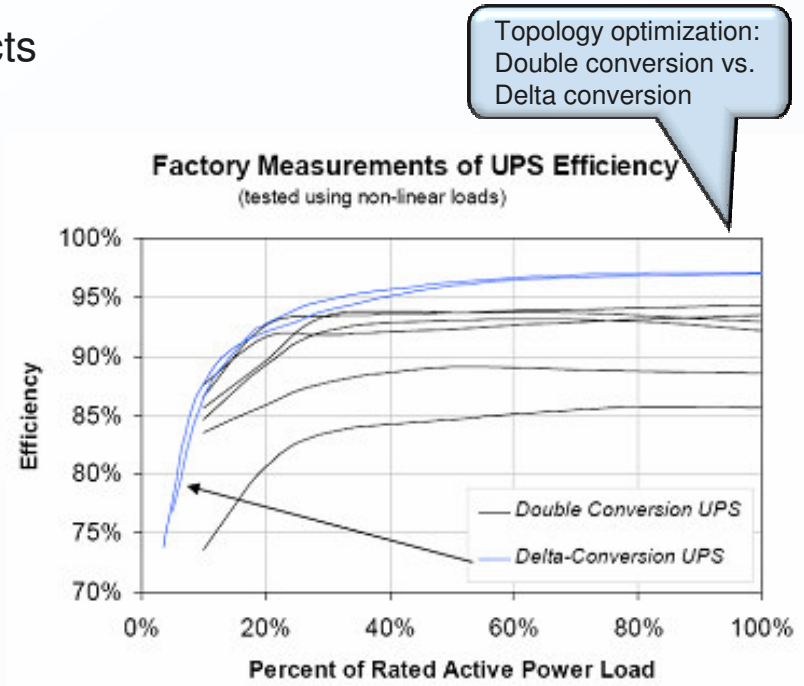
- UPS: Technology, topology, modularity
- DC power designs for blades, storage, etc.
- Power economization modes

Server-level Optimization

- Server consolidation & virtualization
- Power-down sleep modes vs. grid approach

Publicity for Vendors and Users of Green Data Centers

- White papers, case studies, etc.
- Creation of lists & indices enumerating top leaders



Source: Sawyer, Richard "Making Large UPS Systems More Efficient."

Working Together with RampRate

Data Center Efficiency / Environmental Impact Audit

- How does your organization compare with its peers and dedicated ISP facilities
- What are potential paths to improve from within?
- When is an outsourced solution better than self-owned facilities?
- What are the business decisions with greatest environmental impact

Vetting of Existing and Prospective 3rd-party Hosting Relationships

- Are environmentally friendly vendors utilized?
- Are the locations used optimal for renewable energy / low HVAC impact?
- How to build a balanced scorecard including both green factors and business need?
- If external co-location or disaster recovery is planned, how to buy from the right environmentally conscious vendor at the market rate while hitting deadlines

Ecosystem Research

- There is an ecosystem of green-friendly corporations, entities, initiatives
- Who would make the best partners, preferred vendors, good investments?

RampRate Sourcing Advisors

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