

March 26, 2020

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Anne Stevenson-Yang
and Tim Murray

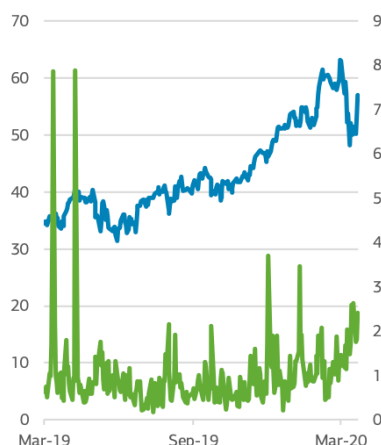
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GDS Holdings Limited

Share Price in USD	\$57.04
Market Cap (mln)	\$8,673.2
Average volume (shares)	1,309,819

GDS last share price in USD (blue, left) and volume (green, right, mln shares)



Source: Bloomberg March 26, 2020

GDS

Designed to Deceive



GDS is a fraud. At least 25% of its revenue is fraudulent. Unlike most Chinese companies, GDS creates the fake revenue by round-tripping its own debt and capex. As GDS's revenue line grows, so does the amount of debt it needs to raise to support the illusion.

In addition to round-tripping, GDS aggressively recognizes future revenues, a portion of which we believe will never be realized. Faked revenue comes without costs, so the play also increases reported EBITDA and reduces optical leverage. Using this and other strategies, GDS has persuaded investors to accept its highly customized metrics and argues that it will be the winner in a take-all market. That is simply not true.

By examining dozens of financial statements submitted to the Chinese government, we've identified about ¥1.3 bln in unreported debt. We also question the cash balances. Interest income in 2018 was ¥19.2 mln, for an average 0.9% yield, while fixed-term deposits in China were yielding about 3% in 2018. Meanwhile, the company pays up to 9.7% for loans despite its large reported cash balances. Fixed-term deposits in China were yielding about 3% in 2018. No wonder GDS is "actively" seeking new sources of debt to get through the year.

After about a year of research, more than 90 interviews, and visits to all but nine of the 70 data centers that GDS has reported in service or under construction, we have concluded that GDS is a sophisticated Ponzi. With financial markets repricing risk in the last few weeks, we believe the debt pyramid could collapse in 2020.

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GDS spends double what its competitors do to build data centers yet generates only one-third as much revenue per rack.

Debt Trap

GDS operates carrier-neutral data centers in China. The company reports optically impressive revenue growth and endless capex.

Perhaps enamored with the polished CFO and the impressive guided tours, investors seem to have overlooked that GDS on average spends double what its competitors do on their data centers yet generates only one-third as much revenue per rack in service. The strategy is baffling considering that the existing data centers have 31% reported unutilized capacity. Our report exposes that these outlier results are symptomatic of an attempt to conceal systematic fraud. Government records show massive discrepancies between GDS reports and underlying reality. We look in detail at six of GDS's acquisitions and describe three examples of fraud involving the same group of individuals, who appear to establish companies expressly to be acquired by GDS. We detail three more examples of what we believe are fraudulently misdirected loans. In one transaction alone, we estimate that GDS misdirected ¥790 mln of investor funds.

Fabricating revenue

GDS accumulates an ever-larger debt pile by raising new loans to pay off old loans and redirecting the additional proceeds into creating "revenue," which helps generate "growth." GDS is able to raise so much money be-

Table 1. Data Center Capex

Data Center Capex	PPE 2018 net of construction in progress (mln RMB)	Racks in service	PPE per rack in service (in RMB)
Dr. Peng Telecom & Media Group Co. Ltd. (600804 SH)	¥1,012	30,000	¥33,731
Shanghai AtHub Co., Ltd. (603881)	¥1,510	28,200	¥53,538
21Vianet (VNET NASDAQ)	¥4,031	30,654	¥131,508
Beijing Sinnet Technology Co. Ltd (300383 SZ)	¥4,040	30,000	¥134,669
Three competitors' average			¥73,979
GDS	¥11,363	64,000	¥177,544
GDS premium to average			240%

Shanghai AtHub numbers are for 2019. Source: Company annual reports, Guosen Securities

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cause it claims capital costs that are almost twice as high as those of its competitors. We demonstrate that GDS does not actually spend all of this elevated capex but instead brings some of the capex back as “revenue.”

GDS does not disclose the number of racks it operates, nor does it give any of the other metrics that are standard for the industry, like megawatts of utilized capacity. For these tables, we rely on the single sell-side report that mentions GDS’s rack count, by Guosen Securities.

光环新网 300383		买入		Guosen “buy” report on Sinnet, May 22, 2019	
合理估值:	14.3-19.8 元	昨收盘:	15.74 元	(维持评级)	
2019年05月22日					

IDC 运营规模分析

国内企业和海外企业在统计数据中心规模时，采用的计量单位不同。国内企业通常使用多少架机柜，海外企业通常使用数据中心面积。为了不因换算造成人为误差，我们尽量保留公司原始披露的数据。

从国内可比公司运营 IDC 规模来看，截至 2018 年底，万国数据运营机柜数量最多，已经超过 6.4 万架，光环新网和世纪互联分别位列第二、第三名，运营

“By the end of 2018, GDS had the most racks in operation, already exceeding 64,000.”

Screenshot from Guosen report



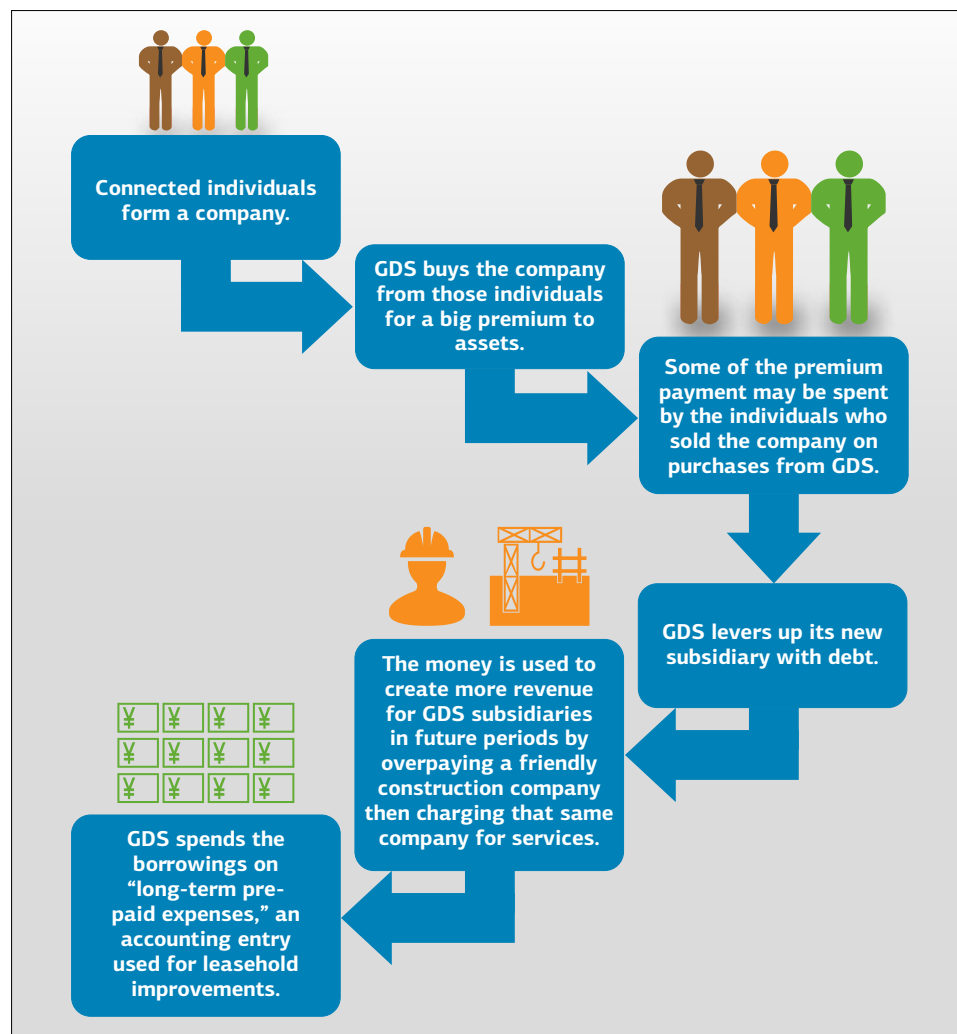
The GDS BJ7 data center. | Photo by J Capital July 2019

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There is a yawning gulf between GDS's financial reports to the Chinese government and to U.S. investors. The difference, we believe, is due to round-tripping debt as revenue. We arrive at our estimate that 25% of revenue is faked by looking at Chinese financial statements for GDS's 15 Variable Interest Entities (VIE), which collect 97% of company revenue. These accounts show a gap between construction spending and PPE, indicating that GDS is spending heavily on construction contracts but not booking new plant and equipment as a consequence. The money just disappears. Using conservative consolidation principles, we found that the gap between construction paid for in 2017 and assets booked in 2018 was ¥659.9 mln, or 24% of 2018 gross revenue.

Here is how the round-tripping works:

We estimate that 25% of revenue is faked.



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75% of the construction contract value for GZ1 appears to have been round-tripped into GDS as a service contract.

To round-trip, you overstate your spending on construction. It's easy enough to get counterparts to give you receipts that claim you spent ¥43.9 mln when you really spent ¥10 mln, and then you have ¥33.9 million you can direct back to the company as "revenue." GDS books big construction contracts using an accounting entry that appears only in the Chinese financial statements. It's called "long-term pre-paid expenses," ostensibly for fit-out of data centers.

In at least one documented case, we show that 75% of the contract value was round-tripped into GDS as a service contract, creating ¥33 mln in revenue. The GZ1 data center provides us with an example where GDS paid ¥43.9 mln to a construction company called NGH, allegedly for construction services. We found that ¥33 mln of the consideration was probably used to pay for GDS "services." The construction company rented racks from GDS.

Telltale Signs: The Acquisitions

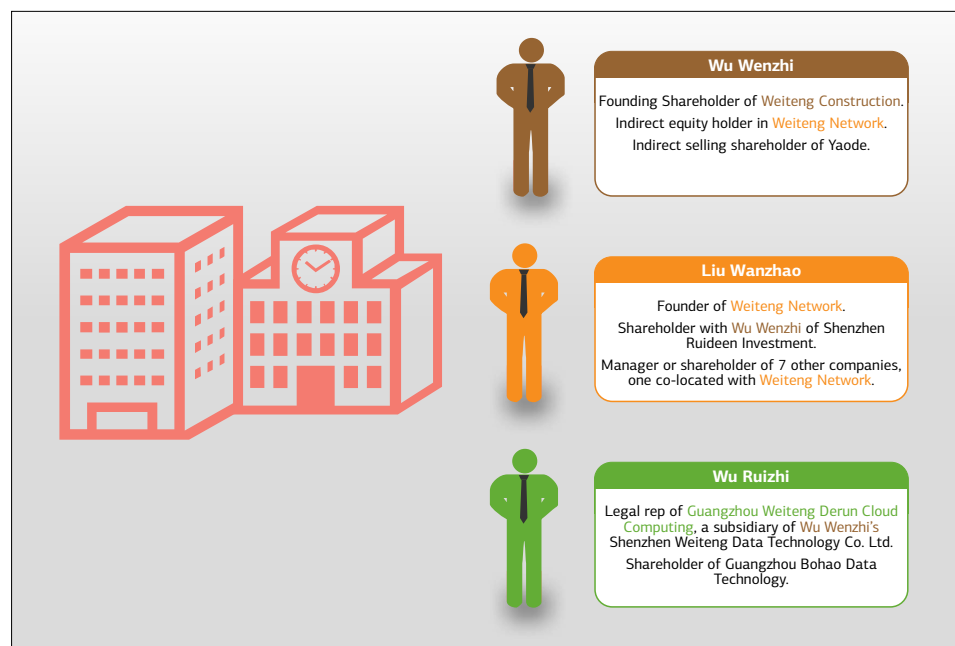
The acquired companies provide insight into these GDS strategies. In each case, GDS overpays for a dubious asset then it loads up that asset with debt--and fails to use that debt for the stated purpose.

GDS has made most of its acquisitions from the same group of individuals and has been trying to hide that fact. Of eight data centers acquired since May 2016 in seven transactions, at least six were purchased from the same small group of associated people. Three of them are founders of several different companies that each use the name "Weiteng" but have no structural connection.

The Weiteng companies all trace back to a few shareholders: Wu Wenzhi, Liu Wanzhao, and someone we believe is Wu Wenzhi's brother whose name is Wu Ruizhi. Liu Wanzhao is a frequent collaborator with Wu Wenzhi and is his fellow shareholder in Shenzhen Ruideen Investment. None of the former Weiteng or GDS employees we spoke with had heard of these individuals. We believe they are stand-ins for people who would find it inconvenient to disclose their identities.

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Chart 1. The Weiteng Crew



Source: SAIC via Qixin, Qichacha, and Credit100

GDS reported spending ¥399.7 mln to outfit a data center that supposedly was already operating when acquired.

GZ1: round-tripping through a construction contract

In its first acquisition, documents indicate that GDS overpaid a construction company by ¥34 mln in order to create the same amount in revenue.

GDS acquired Weiteng Construction, which operates GZ1, on May 19, 2016 for ¥129.5 mln. We believe GDS fraudulently reported that the data center was operating when acquired. GZ1 could not have had revenue in H1 2016, because Weiteng did not have a license to operate a data center. In fact, it looks like Weiteng Construction was established especially to be acquired by GDS. GDS had lent Weiteng ¥42 mln just a few months before acquisition to make it operational, then GDS reported spending ¥399.7 mln to outfit a data center that supposedly was already operating when acquired.

GDS paid a listed company, called Shenzhen Ning Guan Hong Science Limited (33020 SZ), or NGH, to build out GZ1. NGH used part of the construction money to rent racks from GDS in GZ1. The transactions are clearly documented in NGH's public reports.¹

¹ A valuation of Weiteng Construction and the 2016 and 2017 annual reports of Ning Guan Hong, in Chinese, can be downloaded here: <https://jcapitalresearch.box.com/s/gvlyljjae861w5jdme8alqn8yzaalv4>

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- **GDS pays NGH for construction:** In 2016, GDS paid NGH ¥43.9 mln to build out the data center.
- **GDS “loses” the same amount in PPE that it gains in revenue:** in 2016, when it contracted with NGH, Weiteng had ¥80.6 mln in PPE. The next year, those “fixed assets” dropped to ¥47 mln, a decline of ¥33.6 mln. Magically, that same amount--¥34 mln—was the revenue that GDS claimed for GZ1 in 2016.
- **Feedback loop?** It looks like GDS overpaid NGH by ¥33 mln then NGH paid the money back to GDS, which booked it as revenue.
- **Service company becomes a customer:** In 2017, NGH rented a portion of the GZ1 data center and leased out the racks to clients, NGH reported.²

Chart 2. NGH reports paying GDS for services

(2) 收入构成 → Revenue Items

项目	本期金额	上期金额	变动比例
主营业务收入	98,197,387.46	108,201,808.43	-9.25%
其他业务收入 Other Revenue	479,935.57	194,493.83	147.00%
主营业务成本	59,675,524.35	79,525,035.73	-24.96%
其他业务成本	896,736.31	0.00	-

按产品分类分析:

类别/项目	本期收入金额	占营业收入比例%	上期收入金额	占营业收入比例%
IDC 数据中心业务	35,336,546.02	35.81%	51,732,662.97	47.73%
建筑智能化业务	6,957,248.52	7.05%	7,129,844.03	6.58%
IDC 运营业务	53,225,471.70	53.94%	44,384,430.34	40.95%
设计业务	2,678,121.22	2.71%	4,954,871.09	4.57%
小计	98,197,387.46	99.51%	108,201,808.43	99.82%

按区域分类分析:

√不适用

Reasons for revenue change:
Other revenue increase of 147% in the reporting period is due the price differential from NGH renting data center rack space from Weiteng Construction and sub leasing to clients.

收入构成变动的原因:
其他业务收入增长 147%的原因为报告期内宁冠鸿租用了维腾建设公司的部分机房转租给客户中间赚取差价导致。

Source: NGH Annual Report 2017

2 NGH 2017 Annual Report page 11

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GDS overstated
the value of
the company by
¥134.4 mln.

GZ2: Overstating assets

GDS acquired the next company, called Weiteng Network Technology, from NGH. A valuation report³ by NGH shows that GDS overstated the value of the company by ¥134.4 mln. This is a clear example of fraud by GDS.

GDS bought Weiteng Network, operating GZ2, for ¥234 mln. GDS said the company had ¥320 mln in assets (not counting intangibles). By contrast, NGH reported Weiteng Network property and equipment of ¥157 mln at the time it divested Weiteng in October 2017. The apparent overstatement amounts to ¥163 mln. Because of differences in capital lease accounting, we estimate that the overstatement is ¥134.4 mln.

Table 2. Weiteng Network Property and Equipment: GDS vs NGH Accounting (RMB mln)

	NGH (18 Oct 2017)	GDS (9 Oct 2017)	J Cap estimate	Variance
Property and Equipment	¥ 157.00	¥ 214.00		¥ 57.00
Capital lease⁴		¥ 106.00	¥ 74.00	¥ 32.00
Intangibles (customer relationships)⁵	¥ 98.50	¥ 53.10	¥ 45.40	
Total overstatement				¥ 134.40

Source: GDS 20F, NGH Valuation of Weiteng, NGH 2017 Annual Report

3 Readers can find the report, in Chinese, here: <https://jcapitalresearch.box.com/s/gvlyljjae861w5jdme8alqn8yzaalv4>

4 We estimate the capital lease should be valued at ¥74 million, not the ¥106 mln claimed by GDS. The Weiteng Network lease on the property expires on July 14, 2034. Rent in 2018 was ¥3.1 mln and has a 5% annual price increase. On that basis, we arrive at a capital lease value of ¥74 mln. That means the total property and equipment overstatement is ¥89 mln.

5 GDS claimed an intangible asset of ¥98.5 mln for customer relationships. We know from the NGH annual report that GZ2 had only one customer, China Mobile, in a contractual relationship for a further 11.8 years. In many interviews about the terms of GDS contracts, we have not heard one that includes increases in monthly rental fees. As Weiteng Network was making only ¥4.5 mln in profit at full utilization, according to its financial statements, that would make the value of the contract over the 11.8 years ¥53.1 mln, and considerably less if discounted for the time value of money.

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The key mechanism for round tripping debt into revenue is overstated capex.

The key mechanism for round tripping debt into revenue is overstated capex. Recording data center leasehold improvements (called “long-term deferred expenses” in Chinese accounting) is how these expenses get inflated.

The GZ2 transaction demonstrates how leasehold improvements are used as a piggy bank. NGH very clearly itemized leasehold improvements down to the floor level, and those improvements summed to ¥76.7 mln. By contrast, GDS recorded ¥155.1 mln for leasehold improvements when it acquired GZ2—a straight-up lie.

GDS Weiteng Network Fair Value Oct, 9 2017 (GDS 20F 2017)

following major items.

	Note	
Fair value of consideration		233,984
Effective settlement of pre-existing relationships upon consolidation	(i)	(1,807)
Recognized amounts of identifiable assets acquired and liabilities assumed		
Cash		(10,144)
Accounts receivable		(25,177)
Property and equipment	(ii)	(319,943)
Identifiable intangible assets	(iii)	(98,500)
Other assets		(14,135)
Accounts payable		56,431
Capital lease and other financing obligations, current		5,958
Capital lease and other financing obligations, non-current		101,875
Short-term borrowings		50,750
Long-term borrowings		52,999
Deferred tax liabilities		35,097
Other liabilities		5,579
Total identifiable net assets		(159,210)
Goodwill	(iv)	72,967

Note (i): Prior to the acquisition, the Company had payables to the target group of RMB1,807, which was effectively settled with the seller upon completion of the acquisition.

Note (ii): Property and equipment acquired included properties and equipment acquired under capital lease and other financing arrangement of RMB106,000, data center equipment of RMB57,912, leasehold improvement of RMB155,149 and furniture and office equipment of RMB862.

¥ 155.1 mln
Leasehold
improvement

¥ 76.7 mln
Leasehold
improvement

NGH Weiteng Network Valuation June 30 2017

		Appraised value		Unit: 万元 Unit: RMB10,000	
项	目	账面价值 A	评估价值 B	增减值 C=B-A	增值率% D=C/A×100%
流动资产	1	4,561.30	4,561.30	0.00	0.00
非流动资产	2	16,728.50	16,861.72	133.22	0.80
其中：固定资产	3	8,944.64	9,077.86	133.22	1.49
无形资产	4	62.81	62.81	0.00	0.00
长期待摊费用	5	7,677.73	7,677.73	0.00	0.00
递延所得税资产	6	43.32	43.32	0.00	0.00
Long Term Deferred Expense (leasehold improvements)		21,289.80	21,423.02	133.22	0.63
流动负债	9	12,233.11	12,233.11	0.00	0.00
非流动负债	10	3,216.28	3,216.28	0.00	0.00
负债合计	11	15,449.39	15,449.39	0.00	0.00
净资产	12	5,840.41	5,973.63	133.22	2.28

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GDS overstated the asset value of the next acquisition, of GZ3, by ¥434 mln.

GZ3: ¥790 mln that wasn't there

We estimate that GDS overstated the asset value of the next acquisition, of GZ3, by ¥434 mln then took out a loan of ¥356 mln for construction. The loan money went to a subsidiary that does not hold the lease for the data center. Between the overstatement and the misdirected loan, the company's misstatements on GZ3 equal ¥790 mln.

GDS reported that the GZ3 data center had property and equipment of ¥489 mln, net of capital leases, when acquired on May 2, 2018. We obtained the financial reports for the license holder and the WFOE company that together hold the assets for this data center, and they had only ¥55 mln in assets at the time of the GDS acquisition.⁶

Table 3. GZ3 Data Center Assets (mln RMB)

	GDS May 2, 2018 (as reported by GDS)	Weiteng Data December 31, 2018	2018	Variance
Property and Equipment	¥489	¥55	-¥434	32.43

Source: 2018 GDS 20F page F-40, China Finance Bureau filings. GDS data excludes capital lease assets.

A month after the acquisition, on June 12, 2018, the company that GDS calls the "asset company" for the GZ3 data center, Qian Hai Wan Cheng, took out a loan of ¥356 mln from the United Overseas Bank Guangzhou Branch. That money was used for "pre-paid expense," otherwise known as leasehold improvements in Chinese accounting. Adding to the improper nature of this transaction, Qian Hai Wan Chang does not hold the lease for GZ3 and therefore could not carry the expense for leasehold improvement on its balance sheet.

SZ5: Hiding another Weiteng purchase

With the next acquisition, of SZ5, GDS again overpaid for assets and again took out a big loan that disappeared.

In March 2017, GDS acquired SZ5 for ¥312 mln despite disclosing that the net book value was just ¥13 mln (excluding acquired customer relationship

⁶ The WFOE company that GDS said had the data company assets is called Qian Hai Wan Chang. That company had ¥424 mln in assets at the end of 2018. But those assets could not have been there at the time of the GDS acquisition, because Qian Hai Wan Chang became active only on May 17, 2018, after the acquisition. The registered capital, ¥157 mln, was put into Qian Hai Wan Chang only on May 17, 2018.

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intangibles and related deferred tax and goodwill). SZ5 was still under construction and had no license to operate a data center.

Table 4. SZ5 Acquisition (mln RMB)

2017 Shenzhen 5 Acquisition (SZ5)	
Net Book Value Excluding Intangibles, Deferred Tax	¥13.2
Acquisition Price Paid for Equity Control	¥300.5
Acquisition Price Paid % Net Book Value Excluding Intangibles, Deferred Tax	2269%

Source: GDS reports

The WFOE “asset” company for this data center is Guangzhou Shi Wan Guo Yun Lan Data Technology Co., Ltd.⁷ In 2018, that company spent ¥702 mln on construction.

GDS acquired SZ5 for ¥312 mln despite disclosing that the net book value was just ¥13 mln.



The Pengsen Haina Center, which houses the SZ5 data center. | Photo by J Capital September 2019

⁷ See company presentation August 14, 2018 page 23

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Former GDS executives estimate the overstatement at ¥400 mln

That is far more than construction could have cost. Former GDS executives we interviewed who were in charge of data center construction estimated that GDS would have had to spend about ¥300 mln on the construction of phases 1 and 2 ground-up. They estimate the overstatement at ¥400 mln.

The SZ5 data center is 10,000 sqm. An environmental assessment report⁸ on the construction of the GDS data center GZ1 at 31 Kefeng Lu in Guangzhou reported total investment there at ¥235 mln for a construction area of 15,437 sqm, yielding ¥15,131 per sqm. The SZ5 construction payments of ¥702 mln for 10,000 sqm yield a cost per square meter of ¥70,200.

建设项目基本情况

项目名称	广州市科丰路 31 号华南新材料创新园 G6 栋机房建设工程项目				
建设单位	广州市维腾建设有限公司				
法人代表	黄伟	联系人	吴文枝		
通讯地址	广州市萝岗区科丰路 31 号自编一栋 G2-102 室				
联系电话	18520880050	传 真	——	邮政编码	510520
建设地点	广州开发区科丰路 31 号自编二栋华南新材料创新园 G6 栋				
立项审批部门	——		批准文号	——	
建设性质	新建 <input checked="" type="checkbox"/> 改扩建 <input type="checkbox"/> 技改 <input type="checkbox"/>	行业类别及代码	I6420 互联网信息服务		
占地面积 (平方米)	2622.74		建筑面积 (平方米)	15437	
总投资 (万元)	23500	环保投资 (万元)	50	环保投资占总投资比例	0.2%
评价经费 (万元)	1	预期投产日期	2016 年 7 月		

Basic details of construction

Name of project: 31 Kefeng Lu, Guangzhou, G6 machine room

Construction site size: 15,531 sqm

Total investment: ¥235 mln

Page from the environmental assessment report. The report can be downloaded at <https://jcapitalresearch.box.com/s/1rc9e74eebmvs5k4qu69jjegd6a2ht2r>

Another way to look at it is cost per rack in service. We interviewed third parties working in the data center, who confirmed that SZ5 has 3,000 racks in service. The ¥702 mln in fit-out costs alone come to ¥234,000 per rack. The most expensive data center built by Shanghai AtHub, the Shenzhen Baolong data center, required total investment of ¥142,778 per rack, according to disclosures, including the price of servers—which we know from interviews GDS does not buy.

⁸ Download the Chinese-language report here: <https://jcapitalresearch.box.com/s/1rc9e74eebmvs5k4qu69jjegd6a2ht2r>

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Table 5. Competitors' Capex per Rack vs. GDS (RMB)

	PPE per rack in service
Shanghai AtHub Co., Ltd. (603881)	¥53,538
Beijing Sinnet Technology Co. Ltd (300383 SZ)	¥134,669
Dr. Peng Telecom & Media Group Co. Ltd. (600804 SH)	¥33,731
21Vianet (VNET NASDAQ)	¥131,508
GDS	¥177,544
Three competitors' average	¥73,979

Source: Company disclosures

Still buying from Weiteng: BJ9 and GZ6

The spending is getting higher and higher. GDS acquired the BJ9 and GZ6 data centers in H2 2019 for ¥1.2 bln. We discovered that the seller, again, is the Weiteng group.

Although GDS has not disclosed its name, management said that the same seller is behind both deals.⁹ The immediate seller is a data center operator called Kunpeng Data Centers (<http://www.hjkpdata.com>), but government documents show that Kunpeng acquired the holding company for the data centers from Shenzhen City Tianzhu Investment, a vehicle of Weiteng brothers Wu Wenzhi and Wu Ruizhi.

The operating¹⁰ company for GZ6 is in the same development zone as Weiteng Construction, Weiteng Network, and Yun Lan, the Weiteng-affiliated holding company for SZ5.

9 "Guangzhou 6 and Beijing 9 are being acquired from the same seller, it's a second-tier data center operator which had a portfolio with more than 10 data centers." CFO Dan Newman, Q2 2019 earnings call

10 Government records show that Guangzhou Yinwu Data Technology Co. Ltd. was owned as of February 2016 by Shenzhen Tianzhu Investment, which was established by Weiteng Construction.

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An image of GZ6. | Source: <http://www.pioneerhuihua.cn/Case>



A diagram of the location of GZ6 from the website of HCIX, an equipment supplier. Beijing 9 and the new Lanting data centers are also listed on this website. | Source: <http://www.hcix.ltd/>

Ever since a report in July 2018 by Blue Orca Capital accusing GDS of fraudulent transactions with Weiteng, we expect that GDS is sensitive about disclosing new transactions with this group.

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GDS spent
¥320 mln to
acquire Cai Tuo,
a steel trading
company
that was not
operating
in 2017, six
months before
the acquisition

SH11: Cai Tuo

In the SH11 transaction, GDS spent ¥320 mln to acquire Cai Tuo, a steel-trading company that was not operating in 2017, six months before the acquisition. They bought this company even though GDS has 10 data centers just down the road and could easily have built more. We know this from, among other things, construction of the SH12 and SH13 data centers on sites leased from existing landlords.

Shortly after the purchase, GDS took out a loan of ¥191.8 mln, then it paid ¥168 mln in fit-out costs.

December 2019: Lanting (BJ10, BJ11, and BJ12)

We suspect that GDS overpaid for its newest acquisition, Lanting in Beijing. We obtained statutory accounts for the companies being acquired in the transaction and found that, even at high utilization, Lanting in 2018 reported only ¥61.6 mln in revenue and lost ¥45 mln.

Based on our interviews, we believe that the second of three data centers owned by Lanting was completed last October. If that completion led revenue to double in 2019, then GDS would have paid about 20x revenue for Lanting.

GDS is paying \$348.4 mln, equal to the total enterprise value, plus assumed accounts receivable and less assumed liabilities at closing, for three Lanting data centers in Beijing, one of which has not yet been built. According to our interviews, the first site in Beijing started construction at the end of 2017, and now two of the three data centers are complete, with 2,000 racks in each. Tencent is the key tenant of phase 1 and Kuaishou, an online streaming company, has reportedly booked phase 3.

GDS is acquiring two of the Lanting companies in the transaction but has left behind another Lanting company that is owned by the same shareholders. We suspect that this company, called Lanting Yunjing, may be used in the future to create “revenue” for Lanting. Lanting Yunjing offers technology development and services.

Unreported Debt

GDS accounts are littered with anomalies, none as great as those between Chinese and U.S. GAAP accounts.

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We estimate the company has ¥1.3 bln in unreported debt.

Based on Chinese accounts for the 15 VIE companies after consolidation, we estimate the company has ¥1.3 bln in unreported debt.

Our comparison of the Chinese and U.S. GAAP accounts showed other important discrepancies:

- ▶ Including restricted cash, the VIE cash balances are short by ¥117 mln
- ▶ The VIE companies have ¥437 mln more short-term borrowings than reported in the U.S.
- ▶ Accounts payable are ¥433 mln higher than reported
- ▶ Long-term borrowings are higher by ¥1.3 bln.

Table 6. Discrepancies Between GDS US and Chinese VIE Accounts (in mln RMB)

	VIE accounts reported in China	VIE accounts as reported in the U.S.	Difference
ASSETS	2018	2018	2018
Cash	¥ 435	¥ 552	¥ -117
Property and equipment, net	¥ 789	¥3,058	¥ -2,269
Short-term borrowings and current portion of long-term borrowings	¥673	¥ 235	¥ 438
Long-term borrowings	¥ 1,329	¥60	¥1,269
Total liabilities	¥ 3,803	¥ 1,957	¥1,846

Source: Chinese Finance Bureau, company reports, J Capital Research. GAAP VIE accounts come from notes in the financial statements in the 20F, and only comparable categories are presented. Some of the discrepancy in PPE is due to differences in capital lease accounting under U.S. GAAP and PRC standards. J Capital consolidation is based on GDS disclosures but is subject to interpretation. U.S. reported cash includes restricted cash.

Missing cash?

GDS reported an average cash balance of ¥3.96 bln in the first nine months of 2019, and yet the company pays up to 9.7% for loans from Chinese shadow banks and an average over 7%. High cash balances while borrowing ultimately were a problem in a number of Chinese frauds, including Long-

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High cash
balances while
borrowing
ultimately were
a problem in
a number of
Chinese frauds

top and China Media Express, now both delisted.

In the Q2 2018 conference call, responding to Blue Orca, management said the cash was kept offshore due to foreign exchange controls until it could be used for capex spend on the Mainland. This turned out to be untrue, since GDS after that time has spent heavily on capex but borrowed locally rather than fully utilizing offshore cash. We suspect that the cash may be secured against undisclosed debt and cannot be spent.

Like Lucy holding the football, GDS takes big loans then whisks them away. A few examples:

- ▶ In Chengdu, GDS reported that the data center had ¥925 mln in debt at the end of 2018—but the borrower of record, EDC Chengdu, had just ¥161 mln in debt on its books at the end of 2018. The other ¥763 mln somehow disappeared.
- ▶ In SH1, GDS reported that Shanghai Waigaoqiao, which operates the data center, took ¥1.47 bln in loans in 2016, but the debt did not appear on reports the company originally filed with the tax office. GDS later filed a revised report showing ¥553 mln in debt. GDS said that ¥340 mln in new loans replaced old loans. The remaining ¥577 mln was unaccounted for.

GDS's pattern of borrowing and spending is accelerating, as Ponzis must. The company spent about ¥770 mln on land-use rights in Hong Kong in summer 2018 without separately reporting the transaction, except for a tiny note in the annual accounts. It spent \$348.4 mln in December on two data centers in Beijing that we discovered are insolvent, then ¥1.37 bln on a piece of land in Shanghai in January. We believe the accelerating expenditures are simply planting cash with a counterpart in order to create future "revenue" and maintain the fictional growth momentum.

A key consequence of the strategy of taking in debt to generate "revenue" is a mounting interest load. GDS has to borrow to make its interest payments. The company spent ¥915.7 mln in 2019 just to service its ballooning debt—a figure almost as much as the reported gross profit for 2019. This is far higher than what competitors pay. Every other company in the industry has healthy interest cover from net income.

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Weaving debt into revenue has enabled GDS to burn through ¥13.7 bln in financing cash flows since 2015. Despite its founding in 2006, at the start of the phenomenal growth of China's internet, GDS has been slower than

Table 7. 2019 Net Interest/Revenue (in mln RMB and USD)

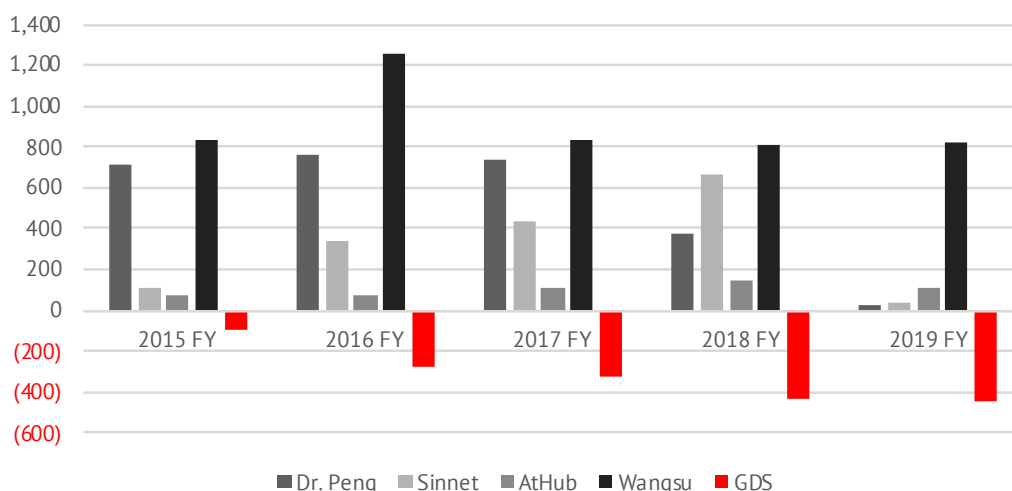
	Net interest	Revenue	Net interest/ revenue
GDS	¥-916	¥4,122	22%
Dr. Peng	¥-102	¥4,569	2%
Sinnet	¥-94	¥6,002	2%
AtHub	¥-58	¥727	8%
EQIX	-\$452	\$5,562	8%
DLR	-\$287	\$3,217	9%

* Sinnet information for 2018. Source: Company financial statements via Capital IQ

any competitor to achieve profit. A key reason: GDS spends twice what its competitors do in capex

In its 2019 earnings release, GDS again touted its ridiculous "Adjusted Net Operating Income (NOI)" calculation, which says that GDS would be profit-

Chart 3. Profit: Chinese Data Center Operators (mln RMB)



Source: Capital IQ. Profit as reported in local currency. Dr. Peng values through Q3 2019.

GDS spent
¥915.7 mln in
2019 just to
service debt,
22% of revenue

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We believe that GDS may be prematurely recognizing revenue in excess of billing.

able IF investors didn't count interest expense, sales expenses, G&A, R&D, depreciation and amortization—basically, all the normal expenses of a company.

Revenue recognition problems

We believe that GDS may be prematurely recognizing revenue in excess of billing. Billing to customers can be variable, whereas GDS' revenue recognition for its primary activities is predominantly fixed on a straight-line basis over contract terms. Consequently, during customer grace periods, which can take up to two years, recognized revenue can be far in excess of actual billed customer obligations.

There are two types of grace periods for clients, according to our interviews, both within the contract terms. The first is the move-in period, during which GDS is preparing space for clients' use. This is not charged and may take two to six weeks but may fall within the term of the contract. The second is the grace period during which large clients may pay according to actual use of racks rather than the number of racks committed to under the contract, as long as they fill a certain proportion of the promised space. In year one, this proportion can be as low as 30%, according to former GDS executives.

At least five of our interviews with former GDS staff indicate these long grace periods for the biggest clients to pay and move in. The company also confirms this in its 20F:

"Our contracts provide flexibility to our customers with regard to utilization and the commencement of billing. Anchor customers with large-scale commitments usually move in over 12 to 24 months, whereas enterprise customers usually move in over a period of three to six months."

We confirmed with a former GDS executive that the total payment committed generally exceeds the amount of cash that GDS collects over the life of the contract.

A former GDS executive told us big clients have no obligation to fill committed space for the first two months of a contract and after that period need to meet only 70% of the commitment. Some large clients like Tencent

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GDS recognizes revenue for rows of unused empty racks.

and Alibaba, he said, usually get three months free and six months during which they are charged by actual utilization rather than committed space, after which they need to meet just 70% of committed utilization.

GDS recognizes revenue for rows of unused empty racks. The company might as well recognize revenue for rows of tumbleweed blowing through the desert.

If GDS were recognizing variable revenue according to true customer usage, then annual revenue per utilized area in service should fall when new utilized area significantly increases year on year, as was the case in 2018, reflecting new clients with new grace periods coming on. In 2018 and 2017, GDS increased its utilized area in service by 46,735 sqm or 76% and 24,589 sqm or 66% compared to 2017 and 2016 respectively.

Subtracting utility costs from service revenue gives a reasonable proxy for underlying reported rent revenue. From this, we calculate annual rent revenue per simple average area of utilized area in service to be ¥24,884/sqm and ¥24,736/sqm in 2017 and 2018, respectively, basically a flat number even though the company reported that customer rent rates were declining. This apparently steady YoY rent revenue per utilized sqm indicates de minimus variable charging for gradual, grace period rent occupancy.

Based on interviews, we believe billing for newly utilized area in service may be 40% less than booked straight-line revenue in the first year of area-in-service utilization. Using our calculated average rent for utilized area in service, we estimate 2018 revenue was overstated about ¥200 mln, and possibly more. Assuming no matching of costs, pulling forward revenue of ¥200 mln would generate a profit overstatement of the same amount. The 2018 gross income of ¥168 mln would be wiped out.

We can see the discrepancy between straight-line recognition and variable billing in the GDS “unbilled receivables” account. In 2018, out of total accounts receivable of ¥541 mln, some ¥385 mln, or 71%, was unbilled. Unbilled receivables were 14% or 1.7 months of total 2018 annual revenue, which was ¥2.8 bln. Billed receivables of ¥156 mln equate to 6% or nearly three weeks’ worth of annual revenue. Although GDS may claim it bills customers in arrears on a monthly or quarterly basis to explain its unbilled receivables, we believe many customers are billed monthly and the un-

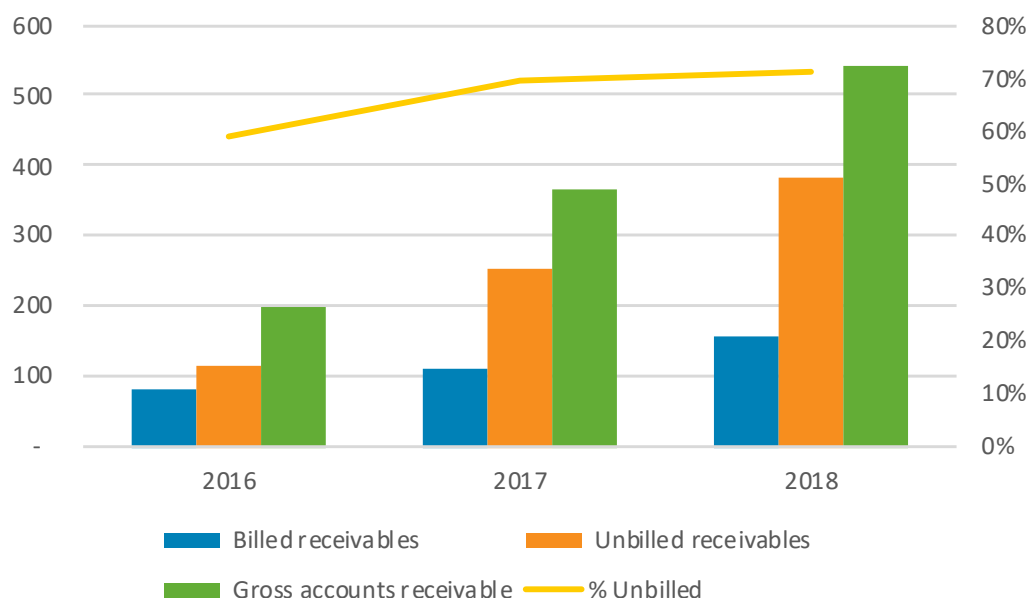
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We believe some of these unbilled receivables were used for securitizing financing arrangements.

billed receivables on its balance sheet are excessive. Comparable companies like 21Vianet (VNET) and Equinix (EQIX) report no unbilled receivables.

We believe some of these unbilled receivables were used for securitizing

Chart 4. Unbilled Receivables as a % of Total (in mln RMB and %)



Source: GDS disclosures

financing arrangements. From GDS's own filings, we see that pledged accounts receivable against borrowings far exceeded billed receivables. Assuming every billed receivable is pledged, there must be at least ¥209 mln in pledged unbilled receivables on balance sheet. If unbilled receivables kept on balance sheet can be used for securing finance, it is not unreasonable to believe there may also be unbilled receivables used for financing that could be off balance sheet. It's not just about flattering revenue and profitability - providers of finance, not just shareholders, may also be asked to value receivables from revenue derived out of thin air.

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Early revenue recognition scandals have brought about famous collapses of firms like Tesco.

We believe GDS utilization is at least 16% lower than claimed.

Table 8. Billed, Unbilled, and Pledged Receivables

mln RMB	2017	2018
Unbilled Account Receivables	254	385
Billed Receivables	111	156
Pledged Account Receivables	136	366

Source: Company reports

Early revenue recognition scandals have brought about famous collapses of firms like Tesco, whose share price cratered in 2014 after the company allegedly booked supplier sales that were contingent on hitting targets the company knew would not be met. California Micro Devices made up about one-third of its revenue by booking contracts from later quarters and never reversing revenue for returned shipments. Maxwell Technologies was charged by the SEC with inflating revenue with aggressive recognition schemes such as customer side deals with full right of return; channel stuffing; extended payment terms; and falsified purchase orders. The Chinese software firm AsiaInfo was taken private in the wake of early revenue-recognition allegations.

Faking Utilization

We believe GDS utilization is at least 16% lower than claimed.

The company provides utilization based on “area in service,” a self-determined number based on how many clients GDS is able to bring in. If GDS does not have clients to rent space, it reports a lower “area in service” number.

If GDS were to base utilization on its disclosed building area rather than area in service, utilization would drop from 69% to 52.7%. When area held for future development is included, utilization is less than one-third.

In June 2017, the company began referring to the “IT area” of its data centers.¹¹ The company has never defined IT area, but it does say that the IT area of certain data centers is entirely committed. That means that IT area must be no larger than area in service. And yet reported utilization based on IT area generally yields utilization levels well below reported utiliza-

¹¹ June 27, 2017 press release: “GDS Obtains New Order from Alibaba for Beijing 3 Data Center” <https://www.globenewswire.com/news-release/2017/06/27/1029394/0/en/GDS-Obtains-New-Order-from-Alibaba-for-Beijing-3-Data-Center.html>

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The average utilization we can calculate from reported IT area versus area utilized is 57.8%, while GDS reports 71%.

Table 9. IT Area versus Reported Utilization (m2 and %)

Data Center	Reported IT area	Reported Area Utilized	Reported Utilization	Calculated Utilization
GZ3	13,000	7,648	95.9%	58.8%
BJ3	4,260	2,871	91.3%	67.4%
HB2	5,000	2,958	63.0%	59.2%
HB3	5,000	2,050	44.0%	41.0%
SH8	5,000	2,354	48.0%	47.1%
SH9	3,800	2,790	83.8%	73.4%

Sources: March 13, 2018 announcement, April 18, 2018 announcement, May 10, 2018 announcement for IT area, 20F for utilization

tion. The average utilization we can calculate from reported IT area versus area utilized is 57.8%, while GDS reports 71%.

GDS defines “area under construction” as area “not yet ready for service,”¹² but we believe that the majority of area under construction refers to the portions of an active data center that have not yet been made available to customers—in other words, if there is no customer, the area is not in service.

Table 10. Utilization versus Total Area

Location	Area in service	Area Under construction	Area held for development	Total area	Area in service/ Total area
Shanghai	56,685	29,505	9,185	95,375	59.4%
Shenzhen	30,154	6,821	7,334	44,309	68.1%
Guangzhou	22,178	-	14,000	36,178	61.3%
Beijing	21,418	28,875	19,881	70,174	30.5%
Hong Kong	953	-	7,061	8,014	11.9%
Chengdu	14,512	-	21,506	36,018	40.3%
Hebei Province (HB,LF, ZB)	14,456	-	-	14,456	100.0%
Total	160,356	65,201	78,967	304,524	52.7%
% Total	52.7%	21.4%	25.9%		

Source: GDS 2018 20-F

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Inflated utilization is one reason why GDS reports the lowest revenue per rack in the industry.

Adding in MOUs signed for future leases yields an even lower proportion of space utilized.

This inflated utilization is one reason why GDS reports the lowest revenue per rack in the industry—lots of the racks are not actually in service.

Table 11. 2018 Data Center Revenue per Rack (in mln USD)

	2018 revenue in USD mln	Rack count	Revenue per rack
Sinnet	\$870	30,000	\$29,014
EQIX	\$5,072	70,000	\$18,784
Dr. Peng	\$658	30,000	\$21,923
VNET	\$490	30,654	\$15,972
Shanghai @Hub	\$131	10,465	\$12,562
GDS	\$402	64,000	\$6,280
Average competitor revenue per rack in service			\$19,651
GDS discount to average			-68%

Source: Company filings. Note that revenue is not completely comparable. VNET, for example, derives 12% of revenues from managed network services.

In several locations, we can pinpoint lies about utilization. In Chengdu, for example, there were six years when the data centers were operating, but GDS did not report on utilization. Satellite photos show that that CD1 Phases 1, 2, and 3 were completed in November 2010, while the company did not report them as completed until Q2 2017. Satellite data show that CD1, reported in service from H1 2011, was vacant until June 2016 despite the GDS report that it was 25% utilized.¹³

¹³ Company presentation December 5, 2016 page 21

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Satellite Image Nov 15, 2010

GDS Claim

- Construction of CD1 Phase 1 completed Nov 2010

Satellite Image Evidence

- These buildings are CD1 Phase 1, and CD1 Phase 2 and 3
- Photo below is CD1 from website and company presentations



Source: Google Satellite and GDS. Photo shows completed buildings in Phases 1-3.

Satellite Image April 14, 2017

GDS Claim in Q1 2017:

- CD1 Phase 2 and 3 commence construction
- Capex in Q1 of ¥380 mln was mainly used for CD1 Phase 3

Satellite Image Evidence:

- CD1 Phase 2 and 3 no construction (satellite image from Nov 2010 shows same structures for CD1 Phases 1, 2 and 3)
- Construction on CD2 Phase 1 (Building below) has begun, but company reports it begins in Q3 2017 – at least two months later



Source: Google Satellite and GDS corporate website

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At GZ1, GDS rents at least 60% of the data center wholesale to The Bigone and New Century and they claim utilization of around 70%.

At GZ1, GDS rents at least 60% of the data center wholesale to several agents, including The Bigone and New Century, both companies that we interviewed. GDS claims that GZ1 is 99.7% utilized, but we know from interviews that The Bigone and New Generation pay only for what they use and claim utilization of around 70%. It is not possible that GZ1 has an occupancy rate of 99.7%.

What Investors Can Do

We have tried unsuccessfully to obtain the company's comment on many of these issues. GDS is certain to deny the allegations presented here, and some investors will not know whom to believe. But investors can and should demand answers to these questions:

1. Why does GDS have a different set of subsidiaries for each data center? Why not consolidate all debt in the parent company, at lower borrowing costs?
2. Why is GDS acquiring so many companies from the Weiteng group of owners? What, really, is Weiteng?
3. Does GDS factor receivables off balance sheet?

We have collected far more examples of malfeasance than we have presented here, and J Capital plans further reports on GDS.

Appendix: Blue Orca Was Right

Blue Orca Capital, in a short recommendation published July 31, 2018, reported that Chinese records show a payment of just ¥72 mln for Weiteng Network, not ¥234 mln as claimed. GDS said that the balance of ¥162 mln was paid to Raojin Limited in Hong Kong, because Raojin's onshore company, Wan Qing Teng Data (Shenzhen) Co., Ltd., had contractual control of Weiteng Network.

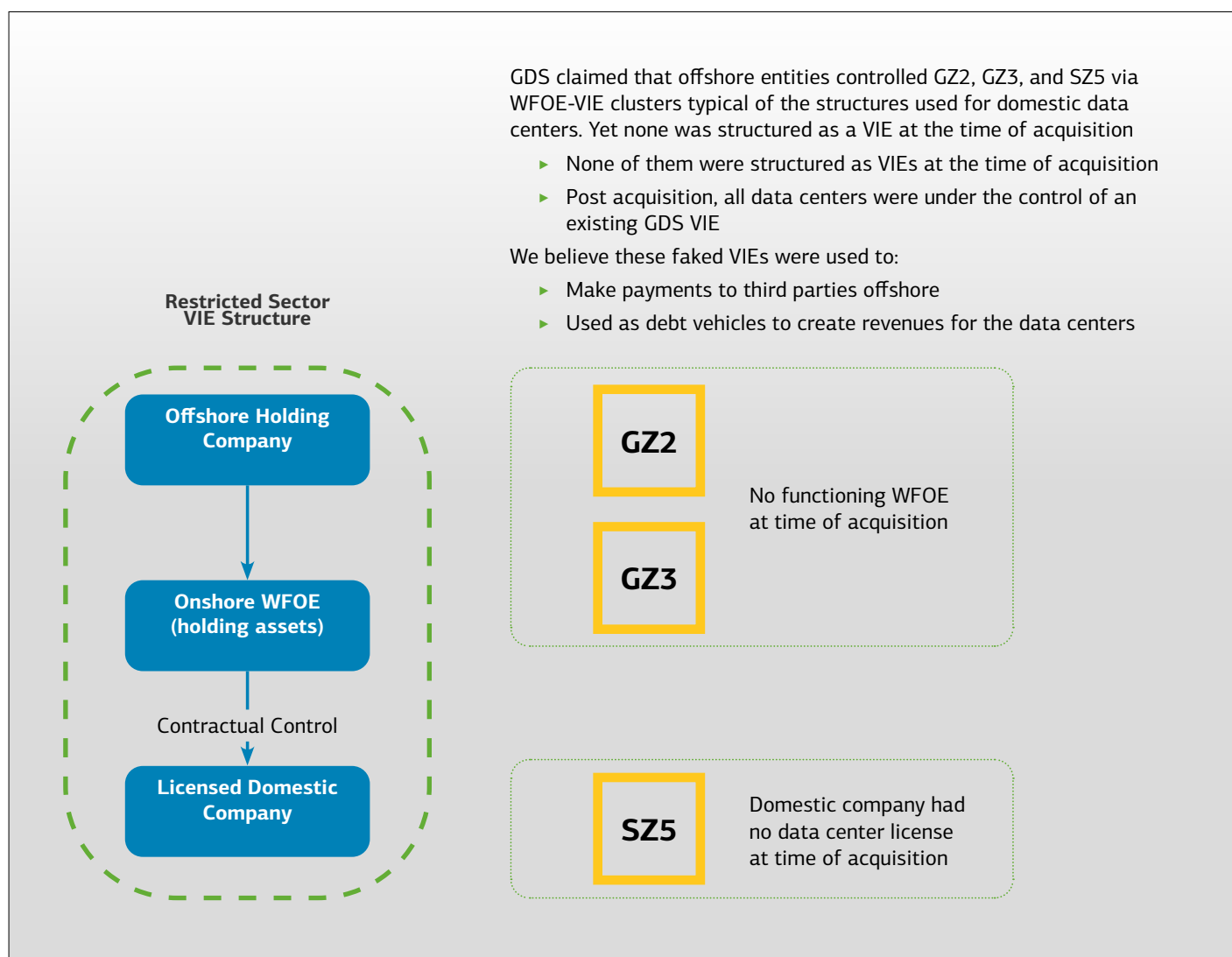
That is clearly untrue. Wan Qing Teng was established in October 2016, 18 months after Weiteng Network, and it was not an active company when GDS made its GZ2 acquisition. No capital had been paid into the company, and it had no financial activity.

Weiteng Network was in fact controlled by its 51% owner, NGH, which exerted management control over the company. Neither Wan Qing Teng Data nor Raojin is mentioned in NGH's reports. There is no contractual relation-

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ship, which is typically associated with a controlling entity. Post-acquisition, Weiteng Network was owned directly by GDS via GDS Suzhou. There is no relationship between Weiteng Network and Wan Qing Teng. GDS could and does exercise control over Weiteng Network via GDS Suzhou, yet GDS maintains Wan Qing Teng. We think that is in order to use Wan Qing Teng for round-tripping.

Chart 5. GDS Lied About Offshore Payments



Source: GDS presentation Q2 2018

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PSDC acquired the onshore entity, Qian Hai Wan Chang, on May 17, 2018, 15 days after the acquisition closed.

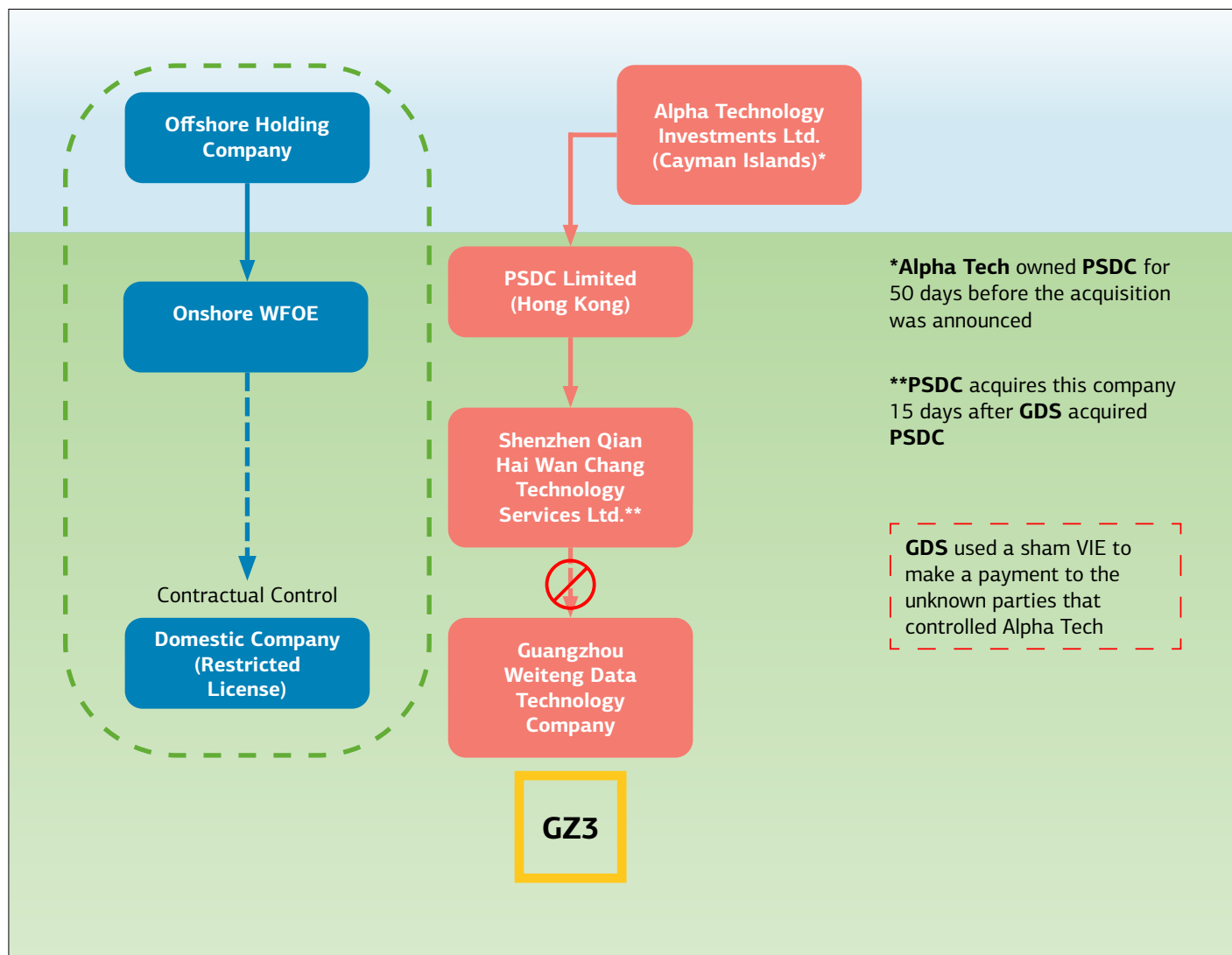
When GDS bought Guangzhou Weiteng Data Technology Ltd., which owned the GZ3 data center, on May 2, 2018, the company made payments to companies that did not control the data center.

GDS claims GZ3 was acquired via a “target group” structured as a VIE. There was a domestic licensee, an offshore holding company called PSDC Ltd., and an onshore WFOE. The ownership of PSDC had been moved to a Caymans shell 15 days before the deal. GDS claimed that the WFOE was a subsidiary of PSDC Ltd. That was untrue. PSDC acquired the onshore entity, Qian Hai Wan Chang, on May 17, 2018, 15 days after the acquisition closed.

PSDC was just a vehicle to hand money to unknown persons controlling a Cayman Islands company.

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Chart 6. GZ3 Acquisition Sham to Pay Unknown Parties



Source: SAIC, Hong Kong Company Registry, GDS reports

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