

Pricing Stable, Demand Increasing for Carrier-Neutral Data Centers

Companies: CBG, COR, CTL, DFT, DLR, EQIX, INXN, JLL, LON:TCY, LVL, TYO:9433

April 4, 2013

Research Question:

How will current pricing, capacity and competitive trends affect Equinix, Telecity and Interxion in 2013?

Summary of Findings

- Pricing, capacity and competitive trends will favor [Equinix Inc.](#) (EQIX) and [Interxion Holding NV](#) (INXN) in many markets this year. [Telecity Group PLC](#) (LON:TCY) was rarely cited by sources as a strong competitor in the United States.
- Premium-price sustainability for carrier-neutral data center services depends on geography. The New York City area, Southern California and some secondary markets like Dallas, Miami and Phoenix will continue to see premium rates because of high demand and tight capacity. Pricing is under pressure in Washington, D.C., Northern California, Dublin, Ireland and Paris, France.
- Carrier-neutral capacity is expected to stay just ahead of demand in all markets. Service providers no longer break ground on new capacity without preselling some space to anchor tenants. The Washington, D.C., market should see 6% to 7% capacity expansion.
- Pricing for carrier-neutral space in 2013 is flat and trending up 3% to 10% in the New York and Southern California markets. In Washington, D.C. and Northern California prices are flat and trending down. Carrier-specific service prices are expected to decline as much as 25% to 30% in some depressed markets.
- Growth for carrier-neutral data centers is expected to continue but will be regional. One carrier source said traffic has doubled year to year in the New York City area, driven by banks and Wall Street.
- Equinix is the clear North America leader; desirable locations and carrier relationships help it command as much as a 20% premium price. Competitors worth noting are [CoreSite Realty Corp.](#) (COR), KDDI Corp.'s (TYO:9433) [Telehouse](#), [DuPont Fabros Technology Inc.](#) (DFT), [Digital Realty Trust Inc.](#) (DLR) and [Sabey Corp.](#) One source views [Verizon Communications Inc.](#)'s (VZ) purchase of Terremark positively, allowing it to push preferential offers and gain new customers in Latin America.
- Running additional fiber connection to data centers is costly, ranging from \$60,000 to \$100,000 per mile, and is only considered when the incentives outweigh the expense.

Silo Summaries

1) CARRIER-NEUTRAL DATA CENTERS CUSTOMERS

These four sources said premium pricing is a regional phenomenon, and is sustainable in some markets but is falling in others. Premium prices are commanded in areas in which space is tight, such as the New York City region, Phoenix, Dallas and Miami. The Washington, D.C., and Dublin markets are depressed, but sources expect the D.C. area to stabilize by late summer as the carrier-neutral space fills up. One source said the Washington, D.C. market could see a 50% price increase in the next year. Sources quoted pricing as \$210 to \$230 per square foot in Washington, D.C., but \$600 in other North American markets. Equinix is considered the market leader in North America, thanks to its ideal locations and strong pricing in the cheapest markets.

2) CARRIERS

Four of these six sources commented on the sustainability of carrier-neutral data centers' premium pricing. The two sources in California expect premium prices to hold year to year, but the Northern California market should see some price erosion beyond 2013. The two sources in Washington, D.C., think pricing has bottomed out and stabilized, but may increase slightly during the next two to three years. Equinix is the dominant provider and is said to command a 20% higher price than its competition in the Northern California market. Sources said demand and capacity are increasing but that overbuilding is unlikely. The New York source said traffic in some data centers has doubled year to year and has shown no sign of slowing. In Washington, D.C., capacity is expected to increase 6% to 7%.

3) COMPETING DATA CENTERS

These seven sources represent two data centers in the New York City area, two in the D.C. area, two in California and one data center in Paris. Premium pricing for high-end carrier-neutral data center services is secure, according to the four sources in New York City, Southern California and Paris, but premium pricing has been eroded in Washington, D.C., and Northern California. Discounts of approximately 10% for large-scale contracts is the norm in D.C. Amazon.com Inc.'s (AMZN) Web Services is taking share in Northern California. Pricing for premium services in all markets is expected to be flat to up 5% this year. Equinix is a market leader in New York and D.C. and is expanding its presence in Southern California.

4) INDUSTRY SPECIALISTS

Three of four sources said premium pricing for carrier-neutral data centers is sustainable, and two of those three expect prices to increase this year, particularly in the Northeast where demand from the financial community is building. Pricing in the West likely will be stagnant. The fourth source thinks prices will decline a few percentage points.

Carrier-Neutral Data Centers

Carrier-Neutral Data Center Pricing Trends

	Customers	Carriers	Competitors	Specialists	Total
Increasing	2	2		2	6
Flat-up	1	1	1		3
Flat			4		4
Flat-decline	1	1	1	2	5
Declining			1		1
No Comment		2			2

Carrier-Neutral Data Center Capacity Trends

	Customers	Carriers	Competitors	Specialists	Total
Increasing	1	2	4	4	11
Flat-up	2	1	2		5
Flat	1	2			3
Flat-decline			1		1
Declining					
No Comment		1			1

Background

Blueshift Research has found that several providers in the carrier-neutral data center market are expanding capacity in response to increasing demand from several market segments. These data centers also are adapting their infrastructure to include new equipment-cooling techniques that could result in a 13% reduction in energy costs. Pricing for carrier-neutral collocation data center services is expected to be resilient through 2014.

CURRENT RESEARCH

Blueshift assessed how current pricing, capacity and competitive trends would affect industry standouts Equinix, Telecity and Interxion this year. We employed our pattern mining approach to establish sources in five independent silos, comprising 21 primary sources and three secondary sources focused on the data center industry:

- 1) Carrier-neutral data centers customers (4)

Carrier-Neutral Data Centers

- 2) Carriers (6)
- 3) Competing data centers (7)
- 4) Industry specialists (4)
- 5) Secondary sources (3)

Next Steps

Blueshift will continue to research the sustainability of premium pricing at carrier-neutral data centers in various regions throughout the United States and Europe. We will investigate the emerging trend of wholesale pricing contracts and their effects on leading data center providers' premium pricing structure and market share. We also will study new capacity created this year and its influence on pricing and margins. Finally, we will assess any strong competitive threats to Equinix and Interxion.

Silos

1) CARRIER-NEUTRAL DATA CENTERS CUSTOMERS

These four sources said premium pricing is a regional phenomenon, and is sustainable in some markets but is falling in others. Premium prices are commanded in areas in which space is tight, such as the New York City region, Phoenix, Dallas and Miami. The Washington, D.C., and Dublin markets are depressed, but sources expect the D.C. area to stabilize by late summer as the carrier-neutral space fills up. One source said the Washington, D.C. market could see a 50% price increase in the next year. Sources quoted pricing as \$210 to \$230 per square foot in Washington, D.C., but \$600 in other North American markets. New capacity is expected to keep pace with demand; additional centers are being added in lower-cost markets. Equinix is considered the market leader in North America, thanks to its ideal locations and strong pricing in the cheapest markets. Interxion is expanding its services in low-cost markets as well and offers services globally. One source representing a Wall Street trading firm's IT department said he runs new fiber to his third-party data center for faster transactions.

► Chief technology officer, cloud network architect and SaaS specialists, California

Carrier-neutral hosting is essential to any modern public or hybrid public/private cloud solution. While smaller network operators can get by with a single-carrier approach, larger players are forced to maintain redundant relationships for the uninterruptible service and additional peak capacity. As cloud platforms scale up, demand for carrier-neutral facilities and pricing will become even more robust relative to single-carrier counterparts, although the geographically distributed nature of [colocation](#) will push new business to low-price centers around the world. Interxion is a leading global vendor, but Equinix is the premium brand of choice among U.S.-focused enterprises.

- "Anyone who's paying attention wants to put their public cloud in a multiple-peering environment. The private cloud can and probably should be open to multiple network routes as well, but that's your decision. If you're working with public cloud capacity at all, you're just not gaining anything but server cycles if you entrust [AT&T \[Inc./T\]](#), Verizon or any single carrier to handle the interconnect and mesh ... into your overall fabric. You remain dependent on that carrier if you do that, and nobody wants to be too dependent on any single vendor. Outages happen and relationships change."
- "You can survive on one carrier connection if you're running less than maybe 1 Gbps peak traffic. For everything bigger, the potential consequences of failure probably justify some carrier diversity, and that requires a carrier-neutral environment. When you're a Microsoft, a Netflix or an eBay, you simply cannot countenance hours of downtime or even a three-minute lag in accessing the data in the vulnerable centers. You need that data back up in milliseconds. Assuming the actual server is still intact, that means switching the packets down a second pipe. It's worth it at that scale."

More enterprise networks are crowding toward that sweet spot where the added cost of a premium center is justified by the potential cost of an interruption.

*CTO, Cloud Service Provider
California*

Carrier-Neutral Data Centers

- “Loads are scaling up, not down. More enterprise networks are crowding toward that sweet spot where the added cost of a premium center is justified by the potential cost of an interruption. And heaven help you if you get a traffic surge and need to acquire bandwidth quickly when you only have one connectivity partner available! If you suddenly need to ramp up, a multiple-carrier facility tends to have a lot more pipes and more room in those pipes to free up for you. That flexibility is worth the money.”
- “Sure, there are a lot of startup networks coming online for whom these things aren’t really an issue. That’s great and it supports the existing world of single-carrier data centers so they aren’t extremely motivated to upgrade and lay new fiber to win the growing carrier-neutral business. They’re motivated and some are upgrading, but it’s not a huge do-or-die rush. And on the [greenfield](#) side, the carrier-neutral operators barely seem able to keep up with current demand, much less what’s coming on the horizon.”

➤ Global bank data center executive, charged with expanding private cloud with public cloud activities, Washington, D.C.

Global enterprise requires the operational flexibility that multiple connectivity options provide and is willing to pay a premium to store data in carrier-neutral centers. Money center banks in particular have no interest in locking up significant resources in facilities where no carrier choice is possible for years. U.S. capacity appears to be in equilibrium for the next year or so, but pricing in some local markets remains soft. Washington D.C. has been a low-cost market in recent years because of shifts in government data consumption and the number of entry-level operators eager to acquire share. Established names like Equinix are regaining pricing power simply through scale. Capacity in second-tier markets like Phoenix and Miami remains tight, and operators that need to monetize expensive new build can charge 200% to 300% what comparable space would earn in more mature markets.

- “I fully expect to pay 5% to 15% more in various geographies for carrier-neutral public cloud space. That means New York and to some extent throughout the second-tier markets where legacy capacity is tight to nonexistent. New York is special because you’ll always have people paying a huge premium to route a trade to the stock exchange a millisecond faster, and they can’t get that beyond a certain radius in New Jersey to Stamford. The second-tier markets put a premium on physical proximity, ironically, so they’re selling themselves on having accessible floor space for your technicians, even physical office space. That will always be tighter because you’re competing with locals who have nowhere else to get that.”
- “That 5% to 15% is a local factor of supply and demand. But it will push truly global enterprise into lower-cost markets because, realistically, it doesn’t matter so much where that overflow data goes. As long as it’s accessible on demand and you have some presence in a high-traffic region to ensure that you’re not limited by any bottlenecks, that’s all you need on the ground in Los Angeles, Seattle or Washington, for example. You’re free to move that capacity to Chicago or Dublin or Brazil, for that matter.”
- “Now, New York is a high-cost market and will remain so. Washington is actually on the low end of the scale because there’s a perception that they’re still glutted with empty cabinets and desperate to rent them out. That’s not quite true on the carrier-neutral side, but a lot of operators work both sides of the story so have been eager to discount the carrier-neutral space in order to generate cash flow to upgrade or otherwise subsidize their older single-carrier sites. That’s pretty much done now. The carrier-neutral centers in Washington are full, and new sites are coming around at a decent but not obscene pace. And Washington is one of the lowest-cost markets in North America, so they won’t lack for traffic coming in from everywhere.”
- “Everyone is happy to grab Washington space for what, \$210, \$230 per square foot? It’s a heck of a lot cheaper than the \$600 other markets in North America have charged, and that gives you the North America presence. ... And it’s a heck of a lot cheaper than laying your own fiber, to be honest. As long as markets like Washington are depressed, they’re going to outcompete everything. You could easily see pricing there soar 50% in the next year, and they’ll still be competitive.”

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*Data Center Executive, Global Bank
Washington, D.C.*

Carrier-Neutral Data Centers

- “Eventually global pricing will rationalize, but for now you’ll have these massive local imbalances driving new contracts to one market or another. Right now Washington is cheap so the contracts go there, so Washington can get more expensive. Dublin is cheap. Dallas is expensive. I wouldn’t tie up my money for seven or eight years in Dallas data center space right now if I can help it.”
- “Interxion is opening up more of those low-cost markets and calling business in from around the world. Europe is opening up cheap, and they’re on the ground there, building centers throughout the region and then renting space to people who might be based in Dallas, San Francisco or New York and don’t necessarily need that local presence. Virtual presence is, after all, the name of the game! Equinix is king in the North American side. They have the best premium sites—and so the strongest pricing—in the cheapest markets here.”
- “It is extremely expensive to lay cable to each carrier you may or may not want to work with over the life of that data center. If it’s your facility, the expense may be justified if you think you’ll be happy to work with that carrier for the next 20 years. If you’re just renting, why on earth are you spending tens of thousands of dollars to lay your own fiber?”
- “We and our peers, more than anyone, have no interest in spending millions of dollars to upgrade other people’s data centers, much less our own, frankly. Throughout our end of the banking sector, there is a very strong consensus that we are no longer investing in non-core assets and businesses, and owning data centers is a non-core business.”
- “In the United States, demand for carrier-neutral enterprise data infrastructure is growing in line with supply, maybe a little ahead all in all. The issue is that this is a long-term transitional piece of any global enterprise’s data footprint.”
- “There’s been a trend for people to put their initial cloud centers close to headquarters so there’s demand for new space around the country, largely in regions where there wasn’t a real top-tier data corridor. Dallas, Houston, Miami, Chicago to some extent, Phoenix surprisingly—these are cities where it’s all virgin build. And as the consultants tell people to request carrier-neutral, those centers naturally fill up first, so pricing is a lot tighter. In places like Washington and New York, there actually isn’t enough capacity for the pent-up demand from organizations growing into the cloud, but pricing is slack because the existing customers tend to be more mature and are leaving at a larger rate.”
- “Washington is especially volatile as federal data centers consolidate and government agencies do not renew their contracts. The sheer erosion of the government sector here is opening up a few hundred thousand square feet that are now very appealingly priced. That won’t last long as the spaces are already filling up about as fast as they open up, but for now it’s an opportunity. I’d say pricing in Virginia and Maryland has come down 15% to 20% in the carrier-neutral and 25% to 35% in the captive centers. Nobody wants to come into the captive centers once they reach significant national presence, which means nobody really wants to come into a place like Washington for their second or third or 50th site and have it be a captive site. They’re coming in for carrier-neutral at a discount.”
- “The sheer number of small operators coming into Washington is also depressing pricing because everyone who wants to build a 10,000- to 40,000-square-foot carrier-neutral site here is doing so and that incremental capacity has to be filled to recoup costs. Any cash flow from these sites to give these operators a toe in the door of one of the world’s great data corridors is better than nothing, and cash flow is leverage for them to finance the second center or the third and, in theory, get better pricing.”
- “Who has the biggest scale so there’s not much urgency to discount? Digital Realty Trust, obviously, although a lot of their space is subleased to operators, and not all of it is carrier-neutral. ... Also, Equinix. In New York, you have Telehouse. The math is on their side, so I would expect them to start raising prices fastest now that the government seems to be on track with its [data consolidation program](#). Other names tend to be entrants from Europe, or startups flush with private equity money and more interested in building share and cash flow now and hoping the next wave of leases in 2018 or 2020 or beyond is better.”

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*Data Center Executive, Global Bank
Washington, D.C.*

Carrier-Neutral Data Centers

► **Broadcast organization tech administrator, with focus on video encryption, storage and streaming service, Washington, D.C.**

At least some carrier-neutral capacity is extremely desirable to would-be tenants interested in managing their long-term vendor risk and will continue to merit a lease premium. However, the premium is eroding as more colocation facilities adopt multicarrier approaches. Well-funded startups and consolidators are bringing some pricing standards to the national landscape, but pricing is still a function of geography. Although some key markets like D.C. should reach local price equilibrium within the next six months, national imbalances will remain a factor for years to come. Today's leaders have no intrinsic defensive advantage.

- "You have to at least make a gesture toward having three or four carrier options in the center. Once the IT manager sees that there are options, you can point them to one carrier or another and that carrier may or may not have an ownership stake in the center. That's fine. 'Carrier-neutral' doesn't have to mean unbiased or impartial. It really means tenants have options if they have a reason to avoid a particular vendor or if ... the dedicated vendor suffers an outage or some kind of organizational disruption and you have to switch. Simply having that flexibility available will always be worth money to forward-looking tenants."
- "The issue is really how much money that flexibility is worth and how the gap is widening or narrowing. Right now I can rent a new but no-frills cabinet in a hosted carrier-specific facility in Detroit for \$600 a month, or about one-third of what that space would cost me in a carrier-neutral facility in Dallas, for example. But I can get the same cabinet in a carrier-neutral facility in D.C. for the same price, so something's off there."
- "D.C. is depressed right now because of uncertainty about the 'fiscal cliff' and the fact that many organizations are relocating existing centers closer to home as their old leases expire and the infrastructure becomes available throughout the country. It's not so much too much capacity or too many people building as it is a relatively sudden decline in artificial demand for space in this region because we had a lot of extra-local competition for space and the government itself now needing less than they did. I'd say this has been going on for about a year but should be resolved by late summer."
- "The shadow of carrier-specific is lightening across the country as formerly isolated [tier-1 metro areas](#) build out their local fiber and aspire to higher status. It's worth it to a data landlord to install \$50,000 in redundant fiber to hook up an interconnect if, for example, suddenly every cabinet in that facility is now worth an extra \$100 a month. After that, suddenly everything is technically 'carrier-neutral' across at least two carriers, and you start asking where the ROI is on that third or fourth interconnect. That should be the question we'll be answering in about two years. For now, it's a specific versus neutral world and that's where the price break happens."
- "The more cabinets across the country that have access to multiple peering relationships, the smaller the gap between carrier-neutral pricing and what we might call the 'industry average,' which is fiction because everything is so intensely local. This is real estate, even if it can be remotely accessed, so it's not like carrier-neutral will fall to meet carrier-specific. It's more that carrier-specific eventually goes away as a viable option for any serious operator and so the comparison becomes meaningless. I don't see what we could call 'baseline carrier-neutral' getting more expensive, though."
- "Of course, this is a remote and a virtual business that's all about colocation, so you don't have to build in your physical locality. We seriously consider places like Detroit all the time for our overflow data needs, but have rejected it so far because going far out doesn't actually buy us anything. If I were based in Dallas, I'd jump at that Detroit cabinet, and maybe it might make sense for me to subsidize a new line to the carrier of my choice in exchange for a discount on my lease. The price gap would be that substantial."
- "The local variations are very, very slowly smoothing. This is because we're more aware of regional opportunities and because the weight of infrastructure across the country is balancing out. It's no longer a heavy Boston-to-D.C. corridor, San Francisco to Seattle and then some ultra-dense nodes in the Midwest, with absolutely nothing else anywhere else. There's high-density fiber in Miami, Texas, Chicago, Las Vegas, Los Angeles. As things balance out, we'll see hot markets cool and cool markets find some strength as tenants shift their data. This will be a very slow process, easily taking a decade or two."

The rise of national brands is helping the smoothing process. The days when every data center was independent and isolated in its pricing are gone. ... You also have companies like DuPont Fabros and Equinix building out everywhere and shifting the industry standard toward their model.

*Tech Administrator, Broadcast Org.
Washington, D.C.*

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- “The rise of national brands is helping the smoothing process. The days when every data center was independent and isolated in its pricing are gone. You have companies like [Zayo Group LLC’s] [ZColo](#) and [ByteGrid \[Holdings LLC\]](#) rolling up centers in attractive geographies and bringing them into a unified pricing fabric. You also have companies like DuPont Fabros and Equinix building out everywhere and shifting the industry standard toward their model. Between these two trends, the independent operator may not be a vanishing breed, but he or she has less opportunity to create pricing noise in the national or even local markets.”
- “Everything is wide open. There’s too much churn in the landscape, too much M&A, too much new build and far too many customers in play to predict a winner. Today’s market leaders are the builders I talked about. They might stay the leaders, but they’ll have to remain nimble over the next few years as leases go up for renewal and loyal customers reevaluate their needs in the modern marketplace.”

➤ Trading/operations manager for an equity fund, New York City

Zero-latency connections to trading networks remain an asset manager’s mantra. While leases in the financial vertical run shorter than normal, tenants with optimal spaces are extremely reluctant to give them up, forcing rivals to build or renovate. The amount of money at stake justifies running additional fiber to centers around Lower Manhattan in order to shave milliseconds off transactions. Money is virtually no object, driving up prices in the New York market.

- “Zero latency hasn’t gone away. There is nothing beyond high-frequency trading. Once you adopt an HFT [high-frequency trading] approach or even bring a sliver of it into your trading approach, you’re committed to making that trade as fast as the technology allows. Milliseconds still matter. All the stereotypes about ‘siting’ your cabinet 10 feet closer to the pipe than your competitors are still true.”
- “We won’t commit to more than a two-year lease in case we find a better deal elsewhere. That keeps us flexible. We pay more per month than someone willing to lock in for nine or 10 years, but that’s OK. Of course, if nothing opens up, we’ll squat on the spot. We have people ahead of us in our center who have been squatting on their spot since 2003. Every month I ask if it’s opening up and every month the site manager tells me he doesn’t know, he’s got to check. It never opens up. They must be renegotiating every six months.”
- “Carrier-neutral is a necessity. I do not want to be caught in an AT&T or Verizon glitch during a flash crash. I don’t even want to be caught in a network slowdown or heavy traffic jam on our pipe. I need to be able to reroute our network connection and get our order in faster.”
- “If we don’t find a space that works for that, we have to build something new or fix something old to fill the gap. We have actually helped run new fiber to this center in order to keep it competitive because at the time there wasn’t anything else on the market we could take. It was this or nothing, so we fixed it up along with a consortium of other tenants and would-be tenants.”
- “We are definitely seeing our connectivity costs climb simply because power is more expensive, rents are rising again, demand is as strong as ever. Weak firms have been shaken out of this industry, but there’s no short supply of people raising money and forming. When they form, they want to be in New York.”
- “Trading firms have the cash to run fiber and the incentive to do so. If you can earn \$10 million for getting a sell order in a millisecond faster than someone else, you have \$10 million to spend on fiber. Fiber doesn’t cost that much.”

Carrier-neutral is a necessity. I do not want to be caught in an AT&T or Verizon glitch during a flash crash.

*Trading/Operations Manager
Equity Fund, New York City*

2) CARRIERS

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Carrier-Neutral Data Centers

data centers has doubled year to year and has shown no sign of slowing. In Washington, D.C., capacity is expected to increase 6% to 7%. Cloud, financial and media are driving growth. Running fiber can cost \$100,000 per mile in some markets and as much as \$1 million per mile in others, like San Francisco.

► **Executive with an enterprise wired telecommunications carrier, serving medical, biotech and banking customers, California**

Prices at core Internet exchange data centers are expected to increase, and some providers have customer contracts with clauses that hike prices by 5% a year. Capacity and power are problematic for companies currently seeking data center space. The cloud is driving the need for faster upload/download and storage capability. Although industry players realize time is running out, current power capacity is sustainable. Fiber running between data centers is ample. The problem area is fiber running from buildings/businesses to the hub, which can be expensive and complicated. Increasing traffic in certain fast-growing segments—namely media and cloud—will increase the price of servers and equipment. However, new servers and data centers are not necessarily needed to accommodate growing traffic. Expansion can be achieved by simply adjusting the interface. Equinix is considered the leader in the U.S., in part before it was the first to go public and used the cash to quickly expand.

- “Equinix and CoreSite are driving the price and capacity, so they will be just fine regardless of the competition. The bottom line is if you want to be in the main hub and data center on, say, Fifth Avenue, you will pay whatever the rent is.”
- “We use CoreSite and Equinix for our data centers, and we have used both of them for quite a while, maybe 10 years. The premium price is certainly not going down, and some contracts have built in price escalation clauses for a 5% increase each year. Only one of our contracts is set up that way, and it is with Equinix. But all of the data centers are increasing their prices; they just do it differently.”
- “Everyone is looking to add capacity or looking for space to expand. Some facilities claim they have limited space available for new users at this point. We are already in a facility, so we are not affected by the capacity. But I know others who have been affected and some who claim that there is not enough power to properly serve them. We have seen this in both Southern California and Northern California.”
- “Everybody is escalating the size of their pipes and looking for more speed. It used to be that a 10-megabit pipe was the norm; now 100-megabit pipes are more the norm. A lot of the increase has to do with new applications that are cloud-based and need more power to transport. Most of the big data centers have the capacity they need, but they also know that time is running out and that they will need more power soon.”
- “The number of cross-connects depends on what kind of customers you are talking about. There is the carrier customer and the end-user customer. Most of the end users have only one or two cross-connections. The carrier customer has 15 or more cross-connections.”
- “Most carriers do have enough fiber. There is plenty of fiber between the data centers from one facility to the next. ... It is the last couple of miles that are the problem in how you get from the building to the data center. That’s also the most expensive part to do. It’s like wiring up a large new business park with many tenants. It is very complicated and expensive. Right now with materials and labor, it costs about \$60,000 to run one mile of fiber. The price is going up and will continue to go up. Pricing is somewhat competitive, but the pricing depends on where the data center is.”
- “We have seen a lot of growth activity in the cloud and media sectors. The expectation is for continuing growth, especially in certain segments. As traffic grows, it drives an increase in costs and demand for equipment.”
- “I am not familiar with Telecity or Interxion. Equinix and CoreSite are big in the U.S., and both have a national presence. The data center industry used to be a more open and competitive field. There used to be far more regional players. But then Equinix went public. They were one of the first to go public, and that gave them the cash flow to expand. They are the biggest in terms of the U.S. A lot of people see Equinix as the leader in the U.S. and others are copying their model. CoreSite and a few others have national coverage, but others just have a regional presence. Most of the companies started by accident. They were REITs or realty companies, and they had a bunch of business in certain buildings because that’s where people wanted to congregate.”

Equinix and CoreSite are driving the price and capacity, so they will be just fine regardless of the competition. The bottom line is if you want to be in the main hub and data center on, say, Fifth Avenue, you will pay whatever the rent is.

*Executive
Enterprise-wired Telecom Carrier
California*

Carrier-Neutral Data Centers

➤ **VP of a national multichannel telecom carrier, offering network capabilities include data centers, PSTN gateways, Internet IP hubs and super POPs serving most of the United States**

Prices are stable in the West, but trends point to aggressive pricing and possibly price erosion this year. The source was not familiar with Telecity or Interxion but relies on Equinix in the San Francisco Bay Area. This national telecom company also relies on wholesale data centers, especially in new launch areas where the limited customer base does not justify the extra expense. Running additional fiber in the United States and building new exchanges are unnecessary as most data centers can accommodate customers' need for POP (point of presence) or access to multiple carriers.

- "Prices are flat in the West, and we are seeing price trends getting more aggressive. As servers get more efficient, the demand for power and cooling has dropped. Price is based on square footage, power consumption and the amount of cooling you use."
- "I am only familiar with one of the three companies of interest to you: Equinix. We have space in the Palo Alto Internet Exchange, which is now Equinix. In the San Francisco Bay Area [including Silicon Valley], everything is routed through Equinix. We also deal with data centers on the wholesale level. ... We are starting to talk to RagingWire. Their prices are a little higher. Although they used to have the reputation of not working well with channels, that has changed. Now they help folks get space for their end users."
- "Choosing a carrier-neutral data center like Equinix or going with a wholesale provider depends on your needs. ... We are a national carrier, but in some places we are just launching so the expense of a higher-quality center doesn't make sense."
- "Equinix is considered the Mercedes Benz of the data center industry. [ViaWest](#), widely used in Washington [state] and Oregon, is more like a Honda. Equinix is more expensive than most, but you are getting POP with them. Qwest has quite a few data centers in the West, and [Hurricane Electric](#) was a big deal a few years ago but no longer. Telx is considered middle of the road, but they are trying to get into exchanges."
- "There is plenty of capacity, and there is plenty of space available. During the crunch years, many started to overbuild in preparation for presumed demand from Internet companies. Power was costly, and some ended up leaving the Bay Area and going to Oregon and Washington to take advantage of lower energy costs. When the economy eventually drove down real estate prices, a lot of people in the data center business started to pick up extra square footage. ... There were ongoing upgrades to California's power structure, which lowered prices, as did the increase in server efficiency."
- "There is no need to run more fiber because everybody's already got fiber. Before the dot-com bust, everyone spent lots of money to put in infrastructure. I am amazed sometimes by how much fiber is out there."
- "Carrier-neutral is now the standard. Although some data centers may give certain carriers preferred status, it no longer matters what data center you choose. People used to have to ask whether going with a specific carrier was a requirement, but that issue has faded away. The choice of data center used to be determined by the density of power and colocation. Now it's more a real estate play and about power, space required and cooling capacity."
- "Having the core switch of the local Internet exchange in your data center is a big advantage. That's where you can reduce latency. If you are a European company and you are trying to gain market share in the U.S., you would have to have a [PSTN](#) to keep up with everyone else. If you are asking whether Equinix is a good choice for a European company trying to get a presence here, know that Equinix still commands a higher price. ... But Equinix is the main Internet exchange player."

Prices are flat in the West, and we are seeing price trends getting more aggressive. As servers get more efficient, the demand for power and cooling has dropped. Price is based on square footage, power consumption and the amount of cooling you use.

VP, Natl. Multichannel Telecom Carrier

➤ **Sales executive, backbone fiber network operator provides services in over 80 countries around the world, Washington, D.C.**

Commercial and government traffic partners throughout the Virginia corridor are extremely interested in carrier-neutral capabilities. Amsterdam and London also represent significant clusters of carrier-neutral facilities. Public and private peering points are in demand as heavy traffic generators embrace network-as-a-service (NaaS) approaches to operating on the cloud and insist on more reliable connections. Neutral colocation centers in the D.C. and New York markets in particular have plenty of pricing power and should be able to increase their relative premium for at least the next two to

Carrier-Neutral Data Centers

three years. Leading names include Equinix and Telehouse. Some technology organizations are so averse to being captive to a single connectivity provider that they will not even consider a single-carrier hosting solution. Overbuild is extremely unlikely in this market.

- “Everyone in the Washington metro area who has appreciable scale wants to be in a center where there’s at least a choice of carriers, and if two is good, seven or eight is better. We’re seeing this with both commercial customers and also the federal agencies that require both a secure facility and multiple secure connections in the event one or more are compromised. I would say the carrier-neutral facilities are in demand and are the primary source of new supply because the major operators are building what the customers want.”
- “Beyond Washington and New York, we are really not seeing multiple peering exchanges per metropolitan area yet, or at least if they exist, we are not invited or eager to join them. San Francisco might be the farthest along to building out to that level, and then there are scattered exchanges down the coast and along the south to Atlanta and along the north through Chicago. In Europe, it’s a similar state of affairs, only less far along. Amsterdam and London are the hubs, and then you have satellites in Paris, Berlin.”
- “The main driver in both Washington and New York is interest in NaaS, ways to use the cloud presence to manage the data transport rather than have data transport constraints limit the cloud. As virtual private networks get traction in the marketplace, we see interest in routing the traffic along various network paths to get cheaper, faster and more robust performance. Some prefer private peering and others are satisfied with the public interconnect, but both approaches require a multicarrier facility.”
- “The bottom line is that carrier-neutral centers in D.C. and New York City are full, and new floor space is on track to build out at a rate of maybe 6% or 7% of the total this year. I think those operators can easily field 15% to 20% more business over the same time period, but they’re not eager to overbuild. New entrants keep coming in, like [EvoSwitch](#) in Virginia, but it’s with relatively small nibbles, 10,000 square feet at a time. The days of massive boom-and-bust are over, and I don’t think they’ll come back until the current generation retires.”
- “With their pick of new customers and very limited new space to play with, operators can easily raise prices going forward. D.C. has bottomed out from all I can see, and we’ll know pretty soon what the new contracts and renewals are going for. New York is still extremely robust. I would not expect any price compression in either market, and I might expect overall pricing to edge forward over the next few years. It’ll be slow because remember, most of the existing capacity is locked up in long-term pricing contracts. But the trend points up, maybe a few percentage points a month.”
- “Equinix is the top, pure carrier-neutral name where we operate, in all markets. Telehouse is a big player in New York. Below them, it’s really a mess of niche names and newbies coming up from the private equity world or from Europe. EvoSwitch, I mentioned them. The big REITs, Digital Realty and DuPont Fabros. [Digital Realty’s] 365 Main in the second-tier metro areas where they compete. But Equinix probably has the biggest name and the best prospects to upsell as a premium brand.”
- “A single-carrier center is a deal breaker for a lot of enterprise and government partners. They may be perfectly happy with the connectivity provider you have and never switch, but they want to know they can switch if it comes down to it. This is especially true for the

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*Sales Executive
Backbone Fiber Network Operator
Washington, D.C.*

Carrier-Neutral Data Centers

software-as-a-service vendors who need ‘uninterruptibility’ and, of course, for the trading firms. As long as you have that multiplicity of options, you don’t need to be on the core switch itself. You just need the presence point. I think the customers understand that.”

- “It is extremely unlikely that the operators will build out too fast and crash the industry again. For one thing, they don’t have the cash. You see some of them expanding their credit arrangements, but others are awfully quiet on that front. It costs a few thousand dollars to build a single square foot of any colocation center, and feeding in pipe from multiple carriers adds to the expense. These companies were already squeezed for credit five years ago, and if nobody would lend to them in 2007, you can imagine how tight money for expansion is now.”
- “Management of these companies lived through the [2001–2002 crash](#). If they didn’t, watch out for those companies to be the ones to eventually start the building boom cycle moving. Those who have the scars from last time are not going to get ahead of the cycle even if they have the cash. This is especially true in D.C., actually, because there’s still so much government-ordained capacity here that basically went unused for most of the last decade and is only now finally filling up again.”

► Sales executive for a tier-1 carrier, Sales executive, Tier 1 carrier in over 180 markets globally, Washington, D.C.

Consultants consider “carrier-neutral” an essential marketing element for any data center, but incentives ensure that enterprise customers rarely take advantage of opportunities to go off-network. Most carriers will discount colocation leases in facilities they control in order to steer tenants to their networks. Truly carrier-independent facilities must avoid charging substantial premiums because they compete with captive and carrier-operated rivals simultaneously to create an attractive a la carte ticket. New capacity is coming online at the high end of the market, rewarding operators that can both expand their footprint and attract blue-ribbon tenants. Verizon’s acquisition of Terremark plays into its global expansion plans and should encourage additional M&A without cannibalizing the core carrier-neutral proposition.

- “We own and operate several data centers that are nominally peering facilities in that they support IP transit across [Level3 \[Communications Inc./LVLT\]](#), AT&T and other carriers, but none of the tenants have active relationships with any of those vendors. They just like knowing that if for some reason they become unhappy with our service or want to send us a message—or simply want to configure their transit routes differently—they can do so without having to move. ‘Carrier-neutral’ is a common marketing term the consultants tell them to demand. It’s rarely a reality in terms of how the connections are actually used.”
- “We now get about one-third of our revenue from carrier-neutral centers we don’t control and the other two-thirds from carrier-neutral centers we do control. Both segments are up about 3% to 4% sequentially, so growth is good but not great. Year over year, our ‘uncontrolled’ center traffic is surging something like 10 times what we’re earning from the more captive centers. The moral here is that we aren’t building much new capacity ourselves but a lot of people are, and we’re getting a big share of the connectivity from those centers.”
- “We have been known to offer deeply discounted or even free rack space to people who sign up for our connectivity service and route their traffic on our metered paths. The connectivity is the steak because it’s where our profits are. The racks are actually the sizzle. For a pure data-center operator, of course, it’s the opposite scenario, and they need to charge more for the racks because it’s their livelihood. Then, in theory, the customer can have access to multiple carriers and get a break on the bandwidth to compensate. In practice, full-price bandwidth plus deeply discounted wholesale colocation is often the best deal, so few people go the other way.”
- “Everything depends on how you portray the relationship and the site. We don’t operate proprietary sites with add-on connections to outside carriers. We operate carrier-neutral sites just like Equinix or any pure data-center company does. It’s just that along with that provider-agnostic environment we happen to offer our own pipe, and by the way, if you sign up with our data, you get a deal on the cabinets. It’s just like on the consumer side, how if

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*Sales Executive, Tier-1 Carrier
Washington, D.C.*

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you sign up for the data plan, you get the phone for free or at a deeply discounted price. Our money is in the data transit, so we can give you the cheapest phone or colocation rent out there.”

- “AT&T, Verizon, all the major carriers have a similar perspective on their server ‘hotel’ arrangements. I’d like to think we’re one of the most sophisticated in terms of always giving the potential tenant a wide choice in terms of network connections. We’re happy to help anyone lay fiber and connect to our centers. Our connectivity can compete head-to-head against anyone, and the bundled discount makes it a slam dunk.”
- “Someone like Equinix can really only compete as a data center operator by opening up to low-cost carriers, regional network providers, people too small to have a large presence or a lot of muscle in the interchanges. Being one out of six connectivity partners in a neutral center at least gives you a die roll’s chance of being looked at when a new tenant moves in. It’s due diligence; if you’re really hungry for that contract, you’ll do what it takes to get it. On the other hand, if you’re a company running at 100 megabit or faster, you already qualify for wholesale pricing with a tier 1 carrier. And you probably need the most advanced connect available to make those speeds work. You can’t get that from a low-cost regional carrier.”
- “The truly captive data center is probably bending over backward to get people to come in the door at all. We give them breaks for exclusivity—we’re the only pipe coming in, we understand that and don’t want to bleed them dry—and they can pass that on to their tenants. They’re often smaller and more bare-bones in terms of service environment, so if you’re worried about cost, this is the entry-level site. People like Equinix and the REITs have to compete against that as well as against us. It’s not a wide market segment they have for themselves.”
- “Nobody is building anonymous bare-bones telecom hotels anymore. There’s plenty of space in those facilities, and as hardware swaps in and out the amount of capacity ... available per square foot keeps rising. But those facilities will probably remain the baseline for the industry for years to come. What people are building to create all-new square feet are cutting-edge centers, green centers, new connectivity solutions to get to the backbone or core switch faster and use existing fiber more cheaply and efficiently. Those are the new square feet that people are building and the rents correspond to the amount of chrome. Ironically enough, these centers can actually be more profitable than the old ones, simply because they can charge more per contract for the amenities.”
- “If you’re building centers, you can get the benefits of growth and that higher rent. If you’re simply sitting on a large pool of long-term rents from five to 10 years ago, you’re sitting on desperation pricing and the knowledge that those customers will be able to migrate once their contracts are up. I wouldn’t really put too much stock in the REITs’ ability to push rents on their existing facilities much higher. The new sites will get the increases, and the old ones will drift lower. If you have more old stock than new, your net rents will drift lower.”
- “Watch the people with the shiniest centers in the newest hot spots in the country. I think 365 Main is underappreciated because they’re in out-of-the-way markets where it’s hard to find rack space of any specification, and they’re building. They’re less of a utility commodity player there and more of a must-have commodity. On the flip side, Washington has a vast amount of aging stock, some of the oldest in the country. It’s turning over, but it’s still older. And while not much is being built, that’s a disadvantage in terms of meeting national average rents, so is it really the best return on capital to run a center there as opposed to Miami, for example?”
- “Speaking of Miami, Verizon is a player to watch. Buying Terremark was widely derided in the data center operator world as a way to ruin a carrier-neutral franchise, but remember, Verizon will keep those pipes open. None of their customers are going to leave today because suddenly they can’t get AT&T if they feel that urge. Verizon will also push preferential offers into those centers because they can now. Want a discount on Terremark colocation? Buy Verizon data. You might expect more acquisitions of this type once the industry really identifies what happened there and why it’s such a game-changing alliance. Throw in the geography—pushing Verizon down into Latin America—and it looks really good.”

Speaking of Miami, Verizon is a player to watch. Buying Terremark was widely derided in the data center operator world as a way to ruin a carrier-neutral franchise, but remember, Verizon will keep those pipes open. None of their customers are going to leave today because suddenly they can’t get AT&T if they feel that urge. ... Throw in the geography—pushing Verizon down into Latin America—and it looks really good.

*Sales Executive, Tier-1 Carrier
Washington, D.C.*

Carrier-Neutral Data Centers

➤ Operations director for an established local ISP with service focused on the New York City market

Enough enterprise customers demand multiple-peer network capability to make it worthwhile for ISPs to cooperate with carrier-neutral facilities. These data centers also defray the cost of running new high-speed fiber to each new customer and then deactivating it if the customer should move or end the relationship. Speed, reliability and privacy are all key factors driving enterprises to carrier-neutral colocation solutions. In North America, Equinix and Telehouse are leading names. Terremark is neither competitive nor truly neutral in the crucial Northeast data hub.

- “Commercial customers like the ability to choose an ISP and, in theory, bring on a carrier or drop another at will. Not many actually do, simply because the network management expertise required to really evaluate in real time is rarely there yet. But it’s coming. If you offer them the ability to choose today or tomorrow, compared to a closed all-in-one package, you can bet they’ll pick the more flexible option. That means data centers with multiple-peer exchange capabilities.”
- “We want to be in those data centers because we want to be in that conversation of who to hire and who to fire on the connectivity side. We don’t run our own data hotels, so there’s no bundled offering to cloud our vision. We just want to make sure we’re at the table when the commercial customer chooses a connectivity partner. We’re perfectly happy to let the data center operator actually run the servers.”
- “Access to customers is a big factor. I’ve seen some data centers double their traffic year over year, and we want a piece of that. There’s no sign of it slowing. Another strategic consideration here is that the data center not only brings prospective connectivity consumers together but it makes the physical fiber connection trivial. We can win 10 clients and lay fiber to all of them at a cost of maybe \$100,000 a mile here in New York for big cables—not counting bridges and tunnels—or lay one pipe to the data center and our work is done until such time as we need to bring in more bandwidth to serve more customers at that center. That’s huge.”
- “The standalone data center is the future. It needs to be fast inside and support fast input and output, but from there we can all lay one multi-gigabit pipe to our backbone and it works out better for everyone. That’s why you won’t see many carriers eager to put these operators out of business any time soon. We profit too much from their existence and would hate to open up to our competitors in order to duplicate their fundamental value-add.”
- “We work with Equinix and Telehouse. Both are apparently overwhelmed with calls after Hurricane Sandy, simply because they stayed up and even hardened Wall Street systems failed.”
- “I have heard that Terremark isn’t really what you might consider carrier-neutral after the Verizon acquisition. Verizon has a sketchy reputation around here, and the notion of getting into bed with them—even though you’re supposedly going out of your way to go with a carrier-flexible data center operator—is not well received. Frankly, I just thought Verizon bought them in order to add to its aging telecom hotel presence here to run its proprietary networking needs.”

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*Operations Director
Established Local ISP, New York City*

➤ Executive with a cable television, internet phone, cable system, email server, network and website hosting services for residential and enterprise customers serving the Northwest

More than enough data center and fiber capacity exists in the United States, partly because of rapid expansion and zealous building after Congress passed the Telecommunications Act and the dot-com crash. The source was unfamiliar with Telecity and Interxion, but uses Equinix’s Palo Alto Internet Exchange. Having the core switch of the local exchange in the data center is more economical for the end user and less complicated for operators in the event of an outage. Different types of POP exist, but a POP with redundancy and access to multicarriers is preferred.

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- “In most major metropolitan areas there is more than enough fiber and data center capacity. The electronics drive how much bandwidth you get out of a device or component, and that has increased immensely over the last 20 to 30 years. Today we can drive more bandwidth and capacity just based on the technology. I think the bigger issue is bandwidth and capacity in underserved areas. Most of the data centers are located in metropolitan areas. If there is a data center in an underserved region it may not have enough capacity to serve the community. Typically, if you are looking to expand, you want to look for areas where there is already capacity.”
- “After the Telecommunications Act, there was an opening up of the last mile. Demand from growth of the Internet was tripling every six months in the 1980s to 1990s. From my previous experience I can tell you people were laying dark fiber into data center facilities and carrier hotels all over the country. People were building intercity networks and putting in big cables in the late 1990s. Then the dot-com industry went bust, and there was suddenly a glut of capacity in terms of conduit and fiber count in cable.”
- “The cost of laying cable depends on the area you are in, and it varies wildly depending on location. ... There are problems and costs associated with permits and digging into the density of the streets. It’s cheapest to run overhead fiber but ... downtown urban areas have all kinds of restrictions regarding noise or when you can operate and that adds to the expense. If you are the last guy to come in, you have to repave the whole block and that adds cost. You have to take all of these things into account when you are trying to assess the cost of running fiber. That said, in most major metropolitan areas, there is already more than enough capacity with regard to fiber.”
- “Having the core switch of the local Internet exchange in your data center is an advantage because it’s more economical and it means there’s one less party to work with in transmission. Regarding outages, it’s better to have a single point of failure and to have fewer handoffs.”

3) COMPETING DATA CENTERS

These seven sources represent two data centers in the New York City area, two in the D.C. area, two in California and one data center in Paris. Premium pricing for high-end carrier-neutral data center services is secure, according to the four sources in New York City, Southern California and Paris, but premium pricing has been eroded in Washington, D.C., and Northern California. Discounts of approximately 10% for large-scale contracts is the norm in D.C. Amazon.com Inc.’s (AMZN) [Web Services](#) is taking share in Northern California. Pricing for premium services in all markets is expected to be flat to up 5% this year. Capacity is staying slightly ahead of demand, with space availability growing 6% to 7%. D.C. sources expressed concern over the [Sabey project](#), which broke ground two years ago and has yet to make any of its 490,000 square-foot capacity available. Equinix is a market leader in New York and D.C. and is expanding its presence in Southern California. Other companies worth noting are CoreSite, DuPont Fabros Technology and Digital Realty Trust.

- **Executive for a growing data center with a national presence , clients range from SaaS companies to financial institutions**
Premium pricing in the United States has been declining 5% year to year for the past six years, but overall pricing will remain flat in 2013 because the power usage effectiveness of the current generation of servers has peaked. A two-tiered pricing system is emerging, with big-box wholesale data centers and back-end server space pricing at the lower end and the more resilient, dynamic upper-end, core network data centers commanding higher premiums. Equinix is “the Cadillac of the industry,” somewhat immune to market fluctuations and competition and able to charge higher premiums. Its strength stems from its monopoly on core network exchange facilities that even big players like Google Inc. (GOOG) and Microsoft Corp. (MSFT) are beholden to for interchange and peering access in key hubs. Telecity is a minor U.S. player, with a presence established mostly through partnerships. Europe’s data center landscape is more competitive and has experienced some price erosion, but this will have a limited effect on Equinix’s international position.
 - “The trend over the last six years has seen a decrease in premium pricing. The reason is technology that makes new facilities cheaper to operate and less expensive to build. Rates from year to year have dropped 5%, but the rates are absolutely driven by supply and demand in a specific region. If you are the last company in an area that has room for a customer, you will get top dollar. That rate could be 20% to

Pricing in 2013 will remain flat. I think we are at the bottom of the price ladder until they create new technology that can generate more power or speed.

*Executive, Growing Data Center
New York based, w/ National Presence*

Carrier-Neutral Data Centers

- 30% higher than the going rate for a coveted spot.”
- “Pricing in 2013 will remain flat. I think we are at the bottom of the price ladder until they create new technology that can generate more power or speed. The PUE [power usage effectiveness] for servers 10 years ago required an extra watt-and-a-half for every watt used. Now you only need 30% overhead so the newer technology allows for better pricing and margins. But you will not see the PUE go below 1.3; that’s the PUE ratio. For example, with a PUE of 1.5, for every watt used you need another 0.5 overhead. When the PUE was at a ratio of 2.5, there were substantial savings. Now there’s not that much savings left.”
- “We are beginning to see a division in pricing. Originally all of the data centers were the same. Now different data centers take on different construction. These are the big-box data centers with 700,000 to 1 million square feet. That changes the cost model. Other data centers are not as redundant as they used to be, but in some cases you do not need that much resilience. Not everyone is a stock market customer. If you are just running email or basic business functions, you don’t need much. So we are seeing a division. Typically, the bigger-box facilities offer lower-end products. Others serve the middle market.”
- “We are on the upper-middle end because we have put a lot of money into our facility. Someone like a Digital Realty Trust has really positioned itself to serve 80% of the market, and they are a wholesaler. Someone like [T5 Data Centers](#) builds really good facilities and can get premium rates. [Sirius](#) [Solutions] is at the lower end. You see most of the price erosion at the lower end.”
- “Equinix is a boutique name in the U.S. Their facilities are considered the Cadillac of the industry. Equinix has the ability to charge high rates because of their position in the market. They have a monopoly. If you want connectivity with multiple ISPs and if you want peering with other networks, you have to go through Equinix. That’s why the Equinix acquisition of [Switch and Data](#) was a very important purchase. Before the acquisition, there were only two options in the U.S. for peering: Equinix, and Switch and Data. Now there is really only one. I’m surprised the SEC allowed it but suspect they didn’t fully understand the result.”
- “Equinix is doing everything it can to move the needle. They are trying to rebuild the brand and promote themselves as a REIT. Don’t get me wrong; they are a great company, but they have breached scale. They own most of the interconnection services in the U.S. Now they have taken a new path of offering wholesale, but it is not going over well with existing clients. Not everyone is happy with Equinix but they have no choice but to deal with them. It’s different in Europe because there is more competition there.”
- “They have no real competitors. The only potential competitor is 365 Main. Equinix [sold](#) its 16 IBX [International Business Exchange] data center holdings and stated it was not the way they wanted to go. Now 365 [Main] is going for the interconnect segment that is not part of Equinix core market model. It’s a tertiary market. ... They are building their exchange points, but it will evolve over the next five years. Equinix has them under their thumb either way.”
- “Telecity does not have a large presence in the U.S. although they are all over Europe. They do have some partnerships in the U.S. and, therefore, some presence but I am not aware of that many.”
- “Equinix is not really affected by pricing. Their prices are firm in all markets. Capacity may affect Equinix a little with regard to the physical space, but capacity doesn’t affect the core. The network core has gone in over many years, and there isn’t a lot of movement in building network capacity. Equinix makes its money on the core network; the core is what connects you to many other different positions so if you want to interconnect, you have to go to Equinix. The Palo Alto Internet Exchange was giving them some trouble for a while but Equinix bought them. Anyone who tries to fight them, they buy.”

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*Executive, Growing Data Center
New York based, w/ National Presence*

Carrier-Neutral Data Centers

- “It is hard to quantify capacity. We know it’s growing, but growth depends on where you are. The data center is a real estate product. Everyone is trying to track it, especially the real estate brokers who deal with mission-critical facilities. Demand also is hard to predict, and that makes it tricky to plan for capacity.”
- “No doubt, capacity will increase. The growth could be as a greenfield facility or a [brownfield](#) facility. The thing is the cloud has to be in a data center. Data center growth coincides with cloud growth, but you cannot have cloud growth without data center growth. Every cloud has to buy in to a data center, but not every data center is being built for the cloud. If you see five new cloud competitors like a [Salesforce.com Inc./CRM](#)], they will either have a facility or lease in the cloud facility. I found that in 1996 there were 200 data centers in the U.S. Fifteen years later there were over 1,100 data centers. But if you look at the [Data Center Map](#), it shows something like 2,600 data centers. The numbers are hard to come by and verify because everybody lies about capacity to keep others out of their market.”
- “There are two reasons carriers don’t run more [fiber]. First is cost. If you are going to spend money to run fiber you want to know there’s someone to use it on the other end. Second, the way technology is growing, we don’t need much fiber. We may need to replace old fiber that was put in 15 years ago, but we really don’t need additional new fiber. When fiber optics first came out, you could shoot one beam of light through the string. Then we had multicolor capability.”
- “The cloud segment is growing the fastest. Part of the reason is healthcare. Instead of hospitals buying their own SaaS for internal use, it’s now cloud-based.”

► **Sales chief for a national carrier-neutral data center operator serving, Internet content providers, media, communications, cloud-based, healthcare and financial services , Washington, D.C.**

Although per-cabinet prices remain strong, carrier-neutral data centers are attracting larger contracts that demand wholesale discounts. Looming capacity increases in the Virginia corridor are not coming online fast enough to depress regional occupancy rates or give customers additional pricing power through the remainder of 2013 at least. Sabey’s long-anticipated [Intergate.Ashburn](#) project seems to have suffered significant delays, taking nearly 500,000 square feet of new capacity with it. If anything, local vendors may have to turn some business away in order to prevent dislodging long-term customers. SaaS companies continue to demand exponentially more server space and connectivity. Financial firms and media are not core segments of the local customer base.

- “We are not having to reduce our pricing at the starter contract level, at the cabinet or fraction of a cabinet level. What we are seeing, however, is many more larger and longer-term contracts as technology vendors jockey for position in our region and lock down space ahead of their immediate needs. Those customers naturally deserve somewhat better terms in exchange for committing to a larger percentage of our space over longer periods of time.”
- “Our average new contract roughly doubled its cabinet needs last year, and the price per square-foot equivalent for new leases dipped maybe 10% to around \$205 to compensate. Our average new lease now runs anywhere in the seven- to 10-year area, so we’ve been happy to lock in something like today’s rates now for that period of time and even provide a bit of a discount.”
- “The problem is that given the way contracts have been expanding, we only have room left for four or five more leases before we’re completely 100% occupied. We do have a 100,000-square-foot facility at the planning stage, but it’s quite possible that we’ll be full by summer. When that happens, we’ll need to spend the next few years rolling our expiring leases up to higher long-term rates or bringing someone in from our waiting list.”
- “New data centers are coming around, but only as a fraction of existing capacity and well behind the rate at which we’ve been signing new contracts. Equinix has 15,000 square feet coming online even as we speak. That’s barely one customer of the size we’ve been signing lately.”
- “The underlying question in this part of the country is Sabey’s Intergate.Ashburn, which broke ground to much hoopla in mid-2011 and has barely made a peep since. Supposedly, this floor plan can be built in nine months,

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Sales Chief, Carrier-neutral Data Center Operator, Washington, D.C.

Carrier-Neutral Data Centers

so we were braced for a massive increase in competing capacity around here—maybe 490,000 square feet—for the last year. That project could be completed tomorrow; it could be a lot more troubled. We just don't know.”

- “What we are doing is shifting customers up to New Jersey, where a lot of data centers are still half empty, or not really worrying about it because something like 75% of our cabinets are locked in through 2018 and beyond. It would take a substantial discount to get these customers to jump ship. They'd be a lot more likely to take new space elsewhere at a deep discount and keep what they have with us until those leases run out.”
- “We might turn business away if capacity just isn't there and a customer is set on local colocation, which is a bit of a questionable concept now that I say it. In practice, we'll send them up to New Jersey until we fill our floors there. So will Equinix. Sabey will send them up to New York or back to the West Coast, and so on. What we won't do is boot a long-term customer just because we need the space and someone is willing to pay more for it. That's not how this industry works. We have to wait for each lease to expire or else build more centers.”
- “Our customer base is primarily SaaS: the CRM, cloud and social networking types. We don't get that much media or trading firms here. Most of that is still centered around New York. They routinely run multiple cross-connects in order to route staggering amounts of traffic between our center, other colocation centers and the web proper. I'd say most of our growth—about 15% year over year—is from the web-hosted software companies.”
- “We are expanding by maybe 6% to 7% in the Washington corridor and are holding the line in New Jersey and Chicago for the time being. We are filling out in San Francisco. New Jersey has plenty of room to build out as needed and can probably take us out a year before we have to think about additional builds. By that point, we might know what Sabey is doing.”
- “Around here, everything is Equinix, DuPont Fabros, Digital Realty Trust, Terremark. Interxion, [Digital Realty's] [Sentrum](#) and Telecity are not U.S. players, and Telehouse is not a player around here.”

➤ Marketing director for an international carrier-neutral data center operator based in the New York market

Carrier-neutral connectivity is essential for truly uninterruptible mission-critical customers and can always be priced at a premium over bundled colocation-and-service offerings. Capacity is coming online, but the sheer cost of adding equipment and running fiber should keep industry growth in line with user demand. Price should remain steady through 2014 at least, barring any sudden economic shocks.

- “There will always be a premium on higher net uptime. Whether people will pay for the extra 0.0001% of speed and network availability or whether they'll be happy with 0.001% is an open question, but whether it's the difference between being up 99% of the time and 99.99% of the time, the kind of people who want it will always be happy to pay for the difference. And most of the time, they'll have the budget to make it happen.”
- “Hurricane Sandy taught our customers and more importantly our prospective customers that you can keep your servers running in a disaster, but if your primary ISP is cut off, all that data might as well be offline. Our centers in New York stayed up. While most of our customers were able to route their connectivity along their primary channels, there were enough forced workarounds to make them grateful and their colleagues jealous. You need redundant data and redundant pipe to be truly secure. That means carrier-agnostic facilities.”
- “The number of enterprises out there requiring truly secure, disaster-proof networking is growing to the point of ubiquity in some verticals. Obviously, any kind of trading-oriented financial company is going to demand the ability to conduct high-frequency transactions during the global trading day.”
- “Decreased latency is also an issue with customers who want the ability to route trades or other communications up one network or down another. They just want the fastest overall path, and having multiple carriers to choose from at any moment is essential to that routing call.”

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Marketing Director, Carrier-neutral Data Center Operator, New York

Carrier-Neutral Data Centers

- “We are growing fast. We added about 100 Gb peak capacity to our network every year for the last few years, and it’s right ahead of traffic. That’s an expensive build when you consider that our standard is 1 Gb speed and up, so we’re not exactly eager to build out a vast switching environment and then have it sit there for years while enterprise demand comes around. This isn’t an ‘if you build it, they will come’ situation. We are building as fast as we can and at levels that a startup from scratch would have to go through a big, initial investment to even enter.”
- “Our pipeline is theoretically full for the next year, 18 months, assuming that everyone who’s talking to us now actually signs on. We still have room in our facilities to build out internally, but simply getting to our existing prospects isn’t exactly leaving us a lot of time on our hands to think about discounts to drum up business.”

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Marketing Director, Carrier-neutral Data Center Operator, New York

► Property portfolio executive for an international data center operator serving information technology and Internet enterprises, to manufacturing and financial services, Washington, D.C.

The D.C. market has been tightening as existing capacity fills faster than competitors can build new facilities. Carrier-neutral space still demands a premium. Pricing in the region may remain soft for another few months but is then expected to improve. Core switch is nice from a carrier perspective, but the benefits are difficult to translate into end-user terms. Equinix is the leading operator in both the region and the U.S. carrier-neutral space, but Telehouse and DuPont Fabros are expanding. Terremark may have a difficult time convincing prospective customers of its neutral posture.

- “Pricing in Northern Virginia has been soft in the last few years. We haven’t been happy with that, but it’s been due to a few competitors trying different pricing programs in order to force their way into that very rich, very robust market or else consolidate what they have. I think overall pricing on new leases is down 10% there. Pricing on pure carrier-neutral is down maybe 15%, so you can see that the relative premium has eroded.”
- “We turned the corner in Northern Virginia in terms of rates in September, I think. The competitors have come to their senses. Everyone realizes that there simply aren’t that many new contracts left to sign until new data centers are open, so they need to get the best terms they can with the space they have left. I’d say we’re up 5% in terms of overall rates in that region since September.”
- “The issue in Northern Virginia has, of course, been too many centers opening up or announced in the 2006 to 2011 window, the boom years. Collectively, the region climbed from maybe a few hundred-thousand square feet in 1998 ... to well over 4 million square feet of server farm today. That’s phenomenal build, and sometimes it hasn’t always been behind demand. The future looks better, which is why some large tenants like Microsoft and Yahoo are extending or expanding their leases now in order to make sure they have room to grow. That squeezes out the small startups in the here and now, but it also helps make sure we can charge them what those bits of space are worth.”
- “In the Washington market, we are running at 96% capacity and bringing on new tenants all the time, so you see how close to full occupancy our cabinets are. Is all of that property technically ‘carrier-neutral?’ No, but if you break it out you’ll find that our carrier-neutral centers are running at or a little better in terms of occupancy than the centers that are effectively one service provider’s domain. These are still two very distinct products and appeal to two distinct customer groups.”
- “Space in carrier-neutral facilities with the right network interconnects will always be more limited, simply because you can locate carrier-specific servers in a neutral facility that connects to that network but the opposite case is not true. You need the right combination of connections to give a server direct access to multiple carriers, and that is a nontrivial cost to build and support compared to a carrier-specific gateway. We and other operators will always charge a premium for those who want or need that neutral position.”
- “The nature of the Northern Virginia hub means carrier-neutral access is relatively plentiful. You’re on backbone throughout that area, and so there’s already a lot of neutral capacity there, probably still the densest concentration on the continent. That’s because there’s a lot of demand for interconnect, but at the same time the relative supply dynamics reduce the gap between carrier-neutral rates and the general rates for the region at large. A larger proportion of the floor space in that area is carrier-neutral so the appreciable ‘premium’ in that area is lower as a share of overall rates. It’s just that rates in that area are higher than they are in most parts of the country, because more of the contracts already have the premium priced in.”

Carrier-Neutral Data Centers

- “Building is still going on, but it’s shifting toward smaller buildings that partake in the data-neutral gateway without actually necessarily being on the switch itself. You can only store so many servers on the switch or in the building with the switch or the campus with the building in it. The next logical step is private networking to extend the ‘campus’ and ensure that remote facilities are still able to get the full benefit of multiple peering. Will it be as fast as if they’re on the switch? No. Will it be possible to give everyone on-the-switch position? No. Those positions are full and most of it will be tied up for years to come in long-term leases. Can operators give everyone something like on-the-switch speed, give or take a bit, no matter where the physical servers are? Yes.”
- “Sabey’s looming entrance into the Northern Virginia market is still an X factor. It’s mysterious, honestly. They’re supposedly signing customers, but we would have had that building up in six months and the facility lit up in another six. They’ve dragged it on for almost two years now. And once that news hit in mid-2011, I can tell you large-scale building in that region stopped dead. It’s too big an overhang to make worse. We will need more capacity in that market but not all at once.”
- “Equinix is the company everyone thinks of in carrier-neutral. They’re the leader in Northern Virginia and the nation. We have more space in Northern Virginia but a lot of it is carrier-specific, small fill-in centers here and there, literal telecom hotels. For us, Northern Virginia is a bulk pricing market. Fast-growing markets like Dallas, Houston, Phoenix, Chicago actually get better traction for us because these are new products there and we can apply our rates from more mature—and expensive—markets at a much lower cost structure, and capacity has yet to explode like it has in Northern Virginia.”
- “Telehouse and DuPont Fabros are obviously building a lot in the New York metro and elsewhere, filling in from that side. And there’s a whole generation of small players coming along fed by private equity. Digital Realty Trust is, of course, a global giant. Terremark is big and likely to get even bigger after the Verizon transaction, but I don’t know if you can consider them carrier-neutral anymore. I don’t think the customers who pay extra to make sure they have additional options beyond Verizon are too happy with that. They’re not necessarily leaving, but I don’t think you’ll see them expand or extend within Terremark. They’ll put their eggs in other baskets.”

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*Property Portfolio Executive
Data Center Operator
Washington, D.C.*

► Data center operator for a Northern California telecom/Internet exchange providing carrier class, carrier-neutral access to over 11 Tier-1 and regional telecommunications providers

Prices at data center facilities that offer space for back-end servers have had to slowly drop prices over the last year and a half to prevent customers from moving to data centers with cloud capacity. Many customers have left low-end facilities for Amazon Web Services. In general, Equinix and CoreSite command higher premium prices, but even big players have had to cut some prices to prevent customers from partnering with Amazon.

- “I think prices are heading down because of the cloud. It’s cheaper to be in the cloud and pay as you go than it is to take space in 30 cabinets with your own servers. The cloud is designed to reduce the footprint of servers, and that’s exactly what it is doing.”
- “Most of the data centers in our region have a lot of spaces available because everyone is going to Amazon Web Services [AWS]. They are leaving in droves to take advantage of what AWS has to offer, its infrastructure and services. Whereas the other type of data center just offers cabinets to put your servers in.”
- “There are a whole bunch of data centers around here, not just the names like Equinix and CoreSite. But even Equinix and CoreSite, which are normally very expensive, have been dumping some of their prices

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*Data Center Operator
Telecom/Internet Exchange
Northern California*

Carrier-Neutral Data Centers

- to keep their customers from going to the cloud. This is not just a regional issue. It's occurring all over the U.S.”
- “You can offer the Amazon-type model if you have other cloud providers in your facility.”

➤ **Sales manager for a collocation vendor, providing premium global data centers and ICT services globally, source based in Paris**

This data center is adding capacity to meet increasing demand for high-quality space from the cloud, SaaS and media market sectors. Overall new capacity is expected to increase 10% in the area. Price is going down for regular space but is holding for high-quality capacity.

- “We have a core switch with local Internet exchange in our data center, and that is a big advantage for clients. ... Giving this service, we can keep price per square meter higher than without. Poorer configurations will get less money per meter. Also, demand is increasing mostly in the high-end segment. For example, we have clients who need to create connection to India or other countries to use services there. They also need more electricity because machines are denser now. They also need to be able to change Internet providers and like neutral-space vendors.”
- “New capacity coming on line is increasing at least 10% this year, and all sectors are strong, especially cloud. We expect to grow a lot in media, SaaS and the cloud.”
- “Premium pricing now being charged by carrier-neutral collocation vendors is decreasing by 3% to 5% a year due to a lot of offers. Regular prices for not-neutral collocation will decrease a bit more from 5% to 10%. I would say an average of 5% decrease is to be expected.”
- “New capacity is increasing. ... We are concentrating on adding high-quality space and converting regular space into a high electrical-power one.”

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*Sales Manager, Collocation Vendor
Paris*

➤ **President of a U.S. data center company President of U.S. data center company, targets the enterprise market with wholesale data center solutions with major site in the Los Angeles market**

Equinix is targeting Los Angeles' wholesale data center market in a move to extend beyond its focus on retail collocation services in the area. The source declined to quantify pricing power but said demand continues to outpace supply and pricing has not been pressured downward.

- “We focus on wholesale so do not generally compete with an Equinix unless they are chasing wholesale deals. But they are saying they are getting into the wholesale business, so they might start to show up on the list. The clients we are chasing are greater than 500 kilowatt and most are greater than 1 megawatt.”
- “We are not seeing downward pressure on pricing. Certain clients shop on price but we don't chase them, and for most clients the risk of losing data results in a higher price than the price of paying for us.”
- “Downward pressure in the cloud and SaaS market? It can't decline. It will continue up.”
- “Media, technology and the financial sector all produce demand ... but the typical manufacturing company has a data center need.”
- “We are not full in the LA space yet, but we are one of the very few wholesale options in LA, with most others being retail collocation. In LA we have 3 megawatts available of the 15 MW total capacity.”
- “This is not an easy business to get into. The capital barrier to entry is high. It's an expensive building to build, unlike putting up warehouses, and takes not only tremendous capital but expertise. ... Los Angeles has more barriers to entry than other markets.”
- “Outsourcing is here to stay, and demand will continue to outpace supply. Thirty percent of corporate IT is currently outsourced; 70% still in-sourced. One day it will flip-flop.”
- “When a corporation is looking to outsource a sizable data center, meaning 3 megawatts to 5 megawatts or greater, there are only a handful of options to meet the need.”

“Downward pressure in the cloud and SaaS market? It can't decline. It will continue up.”

*President, Data Center Company
Major Presence in Los Angeles Market*

Carrier-Neutral Data Centers

- “Large corporations in the Fortune 100 and Fortune 500 crowds ask first about AT&T, Level3 and then a dark fiber provider, for the primary backbone, but they also want regional carriers, [Zayo Group’s] [AboveNet](#).”
- “When you have an active sector with demand like this oversupply will occur, but when you look at the bigger trends, the data center market absorption of space has traditionally exceeded supply in most markets, and that will continue.”
- “As latency continues to go down, the geographic distance for critical data backups can be further away. Take New York after Hurricane Sandy. The predominant backups are in New Jersey. We’re catering to the strategy of people relocating after Sandy. AT&T’s installation of long-haul fiber between the southern U.S. and New York, similar to what exists between New York and Europe, dramatically diminishes latency issues and makes our ... campus a viable option for the financial companies out of New York.”

4) INDUSTRY SPECIALISTS

Three of four sources said premium pricing for carrier-neutral data centers is sustainable, and two of those three expect prices to increase this year, particularly in the Northeast where demand from the financial community is building. Pricing in the West likely will be stagnant. The fourth source thinks prices will decline a few percentage points. All sources agree that demand and capacity are increasing but said overbuilding is not a concern. Competitors are plentiful and include DuPont Fabros, Digital Realty Trust, CenturyLink, Telehouse, Terremark and Sabey. In addition, REITs such as [Jones Lang LaSalle Inc.](#) (JLL) and [CBRE Group Inc.](#) (CBG, formerly CB Richard Ellis) have used commercial vacancies to open and manage data centers.

➤ Executive with a professional industry consultancy and think-tank providing thought leadership, certification, education and professional services for the global data center and emerging Digital Infrastructure industry

Prices are region-specific and driven by the cost of local energy, real estate and data center latency. Pricing will remain stable in 2013 but then will drop as server speed improves, new data centers open and customers learn to demand transparency from carrier-neutral providers saddled with an archaic pricing mechanism. Equinix, Telecty and Interxion are strong players; new competition is coming from DuPont Fabros, Digital Realty Trust, CenturyLink and Sabey. The dark horse may be a real estate firm such as Jones, Lang, LaSalle or CBRE Group, which have used commercial vacancies to operate and manage data centers. Capacity growth is advancing but is tempered by construction costs and obtaining permits. Demand in the financial sector is fast growing, but banks have been slow to use outside operators.

- “Pricing is steady right now, and I do not see it changing dramatically in the next year. But it all depends on the market you’re in and pricing for all of the other components like real estate costs. This market relies on one of the most opaque pricing mechanisms in the world, and that opaqueness is what creates the price differential.”
- “This is a price mechanism that was established years ago by the Bell system, and that’s what enabled the Baby Bells to create a monopoly of the telephone industry. It is held in place by the existing telcos, and everyone has to beat the system to get competitive pricing. Power pricing is one of the two largest factors that create the pricing premium, that [cost of power/energy] and the confluence of network latency, or how far you are from the center. That’s why New Jersey and suburban Washington, D.C., are such hot data center markets right now. It is because of latency, and latency is getting faster and faster. Disaster recovery has improved at a significant pace, and quality is advancing very rapidly.”
- “Most corporate owner operators either have a hybrid in the cloud or are looking to move into the cloud. It’s not cheaper, per se, and it’s still more economical to build your own data center than to go outside to a third party. However, increasingly many companies do not want to own or operate their data centers, anymore than they want to own, operate and manage the buildings that house their employees and business.”
- “As the third-party market becomes more competitive, the price will come down over time and the pricing structure will become more transparent. The transparency will occur as more and more IT

Pricing is steady right now, and I do not see it changing dramatically in the next year. But it all depends on the market you’re in and pricing for all of the other components like real estate costs. This market relies on one of the most opaque pricing mechanisms in the world, and that opaqueness is what creates the price differential.

*Executive, Professional Industry
Consultancy Think-tank*

Carrier-Neutral Data Centers

executives and managers gain expertise and look to move into the cloud or to colocate. They do not have the IT system architecture or design to do this on their own in-house.”

- “Pricing differs from market to market because it is in part based on power pricing. But ... one factor that determines whether the price goes up is the cost of real estate. Right now, in order to cite a new data center, there are serious questions about getting a power permit, which is a very long and very expensive process. The cost of building materials and construction adds to it. Yet there is very limited, suitable real estate available to house a data center, especially in cities like San Francisco.”
- “Because of cloud computing, there is a new class of servers. They are smaller, faster and more efficient. We are reducing our physical footprint even as we are increasing capacity. This will drive the price down but also drive down the actually square footage required to operate a data center.”
- “We are building new capacity, but what used to require a space of 40,000 square feet now can be accomplished in a 10,000-square-foot area. So what took 15 to 20 facilities may only end up needing two facilities. There will be hybrid clouds where you can move the cloud around.”
- “Growth in the industry is exponential, and the amount of transaction traffic has grown exponentially. The fact is, the data center industry will continue to grow, and there is no end in sight. As network latency improves, the speed of the transmittal of data and transaction will improve. ... We also will begin to see the ‘siting’ of these centers outside of earthquake zones and hurricane zones and flood zones. With improved latency we will be able to put these data centers away from cities and transmission lines. As we improve uptime, the price will drop.”
- “I was told by a friend who had dinner with a major financial player and bank executive that he intended to take \$1 billion out of his existing IT budget and put it into a data center within the next 12 months. They don’t care about the current uptime. More and more corporations are driving their IT costs from internal infrastructure budgets to outside data centers. Whether there is a net increase in capacity or replacement of existing capacity matters less that that they are moving out of the corporation and into the co-location centers.”
- “Pricing will drop as CIOs become more experienced at negotiating service contract prices.”
- “Although some telcos are partnering with data centers ... people are misreading what they see. The telcos are not becoming the operators, and the data center is still carrier-neutral. ... Companies that were direct competitors are now leasing space together to satisfy the needs of the market.”
- “There is not a lot of excess capacity out there. But it’s not as if there’s a lot of colocation out there either. It’s like building a mall; the developers do not want to build until they secure an anchor tenant.”
- “There are broad ranges of competitors out there. DuPont Fabros Technology, Digital Realty Trust, Sabey Data Centers and CenturyLink all are in there. ... Equinix, Telecity and Interxion are still big players. Are they going to dominate in any given market? In the recent past, CIOs thought that if AT&T was your provider, you were and had to be an AT&T customer. But CIOs are realizing that can change. In this industry, I don’t think you can watch overall market share. You have to assess and watch urban market by urban market.”
- “The giant real estate players are moving in. Jones Lang LaSalle, a realty and engineering structure firm, is now into data centers. CB Richard Ellis [now CBRE Group] will manage your data center.”
- “The cloud segment is growing rapidly, and Amazon has the biggest footprint and the biggest share of that market. For mobile and consumer media there is Apple [Inc.’s/AAPL] [iCloud](#). But if you look at the financial sector and the number of transactions required to operate, they are showing enormous volume and growing faster than anyone else. Banks also are the slowest to move away from their own operators to third-party colocation centers. It’s a matter of security and scale.”
- “The carriers don’t run more fiber because they can’t do it fast enough. Anecdotally, I’ve been told that in the Miami market, whoever is the major telco there, is selling future capacity for fiber they have not yet strung. I believe [Comcast \[Corp./CMCSA\]](#) and Verizon were the two named as key players, so it’s one of them. They figure if they are going to build new capacity, they want to line up the contracts beforehand so when they go in to build the data center capacity is already tied up. Since the pricing structure is opaque, one big question is whether it is legal to sell future capacity to a project that has no plans and no permits? The answer is no, but it’s been happening for years because there is no transparency and most customers don’t know enough to ask questions.”
- “The best example of this is Amazon. When the Amazon web servers went down in July and again over Christmas, in both cases it was Amazon’s fault. The level of service promised in the contracts is not what they delivered. It should have led to a staggering loss. The Amazon Web Server, in fact, was simply not designed to

Carrier-Neutral Data Centers

handle the kind of loads they were hit with when there was a major shopping event. But Amazon didn't take a hit to their market cap because they artfully lied."

- "The carrier networks are not keeping up, and yet the area will continue to grow because there is more demand. But the buildout has not happened yet because the telcos have a stranglehold on the contracts. That's why in this industry there has to be carrier-neutral and why people will go carrier-neutral. Carrier-neutral hosting is a big part of third-party hosting, and it is driven by demand. ... Growth will be more prevalent in Las Vegas or Phoenix because they are new growth markets."
- "Having a core switch is a big advantage because of latency. It's similar to laptop performance where the closer the switches are between the RAM, the faster the laptop. ... Having a POP is not the same. It's more about consumer traffic. Most POP represents hosting where there is less demand and more traffic. POP is less important for the corporate client or B2B."

► Data center consultant, providing educational and operational services for network industry trade group

Robust data center build rates do not translate into a "glut," especially where carrier-neutral space is concerned. Oversupply fears are overstated on Wall Street and remain a formative influence on operator psychology. As carrier-neutral sites become the industry standard, the premium infrastructure proposition is shifting to cloud-neutral solutions. Water and power are the new bottlenecks for capacity expansion. Sabey's efforts to enter the Washington, D.C., market have stalled, but Equinix, Digital Realty and DuPont Fabros are doing well. The next two years will determine the winners and losers as industry consolidation accelerates.

- "We are not headed into a data center glut in any geography I'm aware of, at least in terms of overall capacity. The composition of the mix is shifting so various segments are in greater demand or going empty, but that's always how it's been. Right now I'd say capacity in geographies I'm most familiar with like Washington is going to climb 5% to 10% in the next year or so, while areas that are catching up will obviously demonstrate much higher growth rates from much lower bases."
- "Rumors have wracked Wall Street for years now that there's too much data center. That's nonsense. There might be more outmoded inventory than we need, but most of it is held in long-term arrangements for the next few years at least. The true 'data motels' are happily renting space by the quarter-rack to small customers, basically performing consumer hosting service. There will always be a need for that kind of business, but the 10,000-square-foot suites are not exactly going empty for ages or forcing the landlord to offer huge discounts. What's happened is the scars from the 2001–2002 crash are still fresh enough to keep investors nervous, and the management of these companies absolutely terrified of creating a new catastrophic oversupply situation."
- "The mix is shifting toward carrier-neutral. Practically all new space is carrier-neutral because practically all significant demand is for carrier-neutral. As someone who has purchased data center services and has been a data center operator, I can tell you that carrier-neutrality always seemed to be the best policy, both customer- and margin-friendly. This is a widely shared attitude now and is not considered particularly enlightened, circa 2012. ... As carrier-neutral dominates the new build, you might see the premium that carrier-neutral centers currently demand compared to the average center narrow somewhat. However, you will see pricing on carrier-specific centers collapse in the next few years as those tenants move and are not replaced, so that will pull down the average and maybe even widen the spread from that direction."
- "By 2014, I fully expect a new class of data center, what we might call 'cloud-neutral' colocation, to emerge as the new top of the data center food chain. These centers will cater to the most sophisticated technology organizations with the most complex needs, much as carrier-neutral catered to the sophisticated network managers of the old dot-com era. If you want to route traffic down one network or another, you need carrier-

We are not headed into a data center glut in any geography I'm aware of, at least in terms of overall capacity. The composition of the mix is shifting so various segments are in greater demand or going empty, but that's always how it's been. Right now I'd say capacity in geographies I'm most familiar with like Washington is going to climb 5% to 10% in the next year or so, while areas that are catching up will obviously demonstrate much higher growth rates from much lower bases.

*Data Center Consultant
Network Industry Trade Group*

Carrier-Neutral Data Centers

neutrality. If you want to interact with multiple public clouds, you need cloud neutrality, which is the ability to access multiple public clouds on demand.”

- “Cloud neutrality will be the premium play in this industry for the next decade if we follow the evolution of carrier-neutrality. Carrier-neutrality itself will become the new normal for true enterprise and not the entrepreneurial operations that are opting to bypass colocation entirely anyway to go straight to the cloud. The big players who still lease their own infrastructure will demand carrier-neutrality and to a large extent already do.”
- “If it might cost me up to \$2,000 a month to lease a carrier-neutral cabinet—all in, power and wavelength included—and as little as \$500 a month in some markets for a carrier-captive deal, what happens? Carrier-neutral might decline a few percentage points or remain exactly where it is in the next year or so.”
- “The overall national mix may actually improve per square foot, but the rewards will go to the people with the carrier-neutral cabinets and the pain will go to the people with the carrier-captive cabinets. Equinix, Telehouse and Terremark have the biggest concentration of carrier-neutral cabinets. I’d say Digital Realty and DuPont Fabros are the biggest carrier-captive names, but even for them, carrier-specific business is really the underbelly of what they do now, not the core business. The pain here will go straight to the remaining independent and regional operators and may drive many to agree to be bought out by a larger company or consolidator willing to upgrade the sites to support a minimum of three carriers beyond the local exchange carrier. Full stop. That’s what you need now to be relevant.”
- “Cooling and permitting are actually emerging as the significant constraints. If you want to add an interconnect, you’re really only limited by cash available. The number I’m seeing is still maybe \$70,000 a mile for laying new underground fiber conduit, again on average on a national level. Counting the cable, at a naked minimum, you’re looking at \$100 per square foot per carrier if you can get the right of way. But if you don’t have water to run the air conditioners and you don’t have the right connection to the power grid to run anything, you have more serious challenges than writing a check. Look for cheaper sites to cluster around wetlands—New Jersey marshes, Washington swamps—and favorable utility environments. Do not look for bargains in the desert or in heavily regulated power jurisdictions.”
- “Power seems to have sidelined Sabey’s gala entry into the Washington market. They managed to break ground, but where’s the new power substation they need to light up that massive 500,000-square-foot facility? Meanwhile, plans are afoot from Equinix, DuPont and Digital Realty to expand in that region. There is still a thriving trade in leases and even plenty of land in the area for additional building.”
- “Consolidation and the accelerated obsolescence of legacy infrastructure are the themes for the next few years. The cloud is emerging, and everyone wants a cloud partner or multiple cloud partners. Look for cloud to sit on top of carrier connect as a third layer of variety inside the data center, and as various industry players find dance partners the arrangements may get complicated.”
- “Consolidation is definitely in the air. Look at all the private companies buying server farms in secondary markets to generate national relevance—365 Main pulling the secondary markets off Equinix. ByteGrid, Sabey, Zayo. Also look to Verizon buying Terremark. Carriers buying carrier-neutral centers, carrier-neutral centers buying carrier-specific centers.”

By 2014, I fully expect a new class of data center, what we might call ‘cloud-neutral’ colocation, to emerge as the new top of the data center food chain. These centers will cater to the most sophisticated technology organizations with the most complex needs.

*Data Center Consultant
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► Editor and publisher of a trade publication serving the data center/backup power industry

Prices were stagnant between 2011 and 2012 but started to increase six to seven months ago. In the congested Northeast region, lower-end data center facilities have seen a 3% to 4% increase in pricing while cloud and network exchange data centers have posted 7% to 8% price hike. Pricing remains stagnant in the West where growth is slower. Capacity expansions and needs are well-guarded secrets. All industry sectors are seeing growth in traffic and the need for capacity. The need appears to be strongest in the Northeast among banks and financial institutions that tend to seek space in colocation facilities populated by the marquee-name companies like AT&T and Amazon. Yahoo Inc. (YHOO), Amazon and others are working to build greenfield facilities to accommodate traffic needs. In general they are moving toward locations characterized by rapid population/urban growth.

Carrier-Neutral Data Centers

- “Pricing depends on the location of the data center and the customers served. The industry overall was in a lull between 2011 and 2012, but prices started to trend up over the last six to seven months. In the Northeast, we are seeing price increases of 3% to 4% for the lower-end server facilities and wholesale. But the cloud facilities are different and in that segment prices are up 7% to 8% in the Northeast, from Virginia to New Jersey. In the West, pricing is flat because growth has been stagnant.”
- “Capacity expansion also depends on the particular location and the particular industry segment. We see banks and financial institutions leading in the search for adding data center capacity, followed by the credit card companies. The credit card companies are expanding but the growth is internal, and they are less likely to lease outside wholesale space. If leasing, they are going to colocation facilities that are typically shared with AT&T and Amazon.”
- “Companies like Yahoo and Amazon are definitely building new end-to-end facilities because their expansion and capacity needs are huge. Mostly we see them going into the states that have burgeoning economies.”
- “You really can’t get comprehensive or accurate capacity information and the available data out there on capacity is not viewed as reliable. The industry is very secretive about capacity and customers and operations. They don’t want anyone to know exactly where they are or what they have. It’s all about security and protection of assets and information.”
- All of the sectors are seeing growth. It’s a footrace. ... Despite the lower cost, companies prefer to partner with carrier-neutral data center facility to wholesale, again because of security issues. Wholesale is not necessarily less secure but the coverage companies get from colocation is better than at the wholesale facilities.”

Pricing depends on the location of the data center and the customers served. The industry overall was in a lull between 2011 and 2012, but prices started to trend up over the last six to seven months. In the Northeast, we are seeing price increases of 3% to 4% for the lower-end server facilities and wholesale. But the cloud facilities are different and in that segment prices are up 7% to 8% in the Northeast, from Virginia to New Jersey. In the West, pricing is flat because growth has been stagnant.

*Editor & Publisher
Data Center Industry Trade Publication*

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Demand for server space is rising exponentially while the first generation of commercial data centers approaches the end of its projected lifespan. If any overbuild situation emerges, it will be localized and transient in scope. Colocation providers are building for anchor tenants, effectively eliminating the risk that any substantial facility will break ground without much of its space already leased. Power represents approximately 400% the cost of computing equipment and other infrastructure, giving providers room to spend more money on low-power SSD equipment and recoup their investment. Since very few organizations that need less than 23,000 square feet of cabinet space are interested in building their own facilities, global demand for leased space should rise faster than the colocation industry’s ability to serve it. Prices will rise slowly but inexorably.

- “Pricing is rising. Old providers are hitting scaling constraints and end-of-life concerns. They need to rebuild. New providers are building but not fast.”
- “Data has exploded. Between cloud, CRM, mobile and social, the corporate world is generating so much information that it is already straining [Moore’s Law](#) in terms of technology’s ability to keep up. People are having to build more centers. It’s that simple. Furthermore, technology and buildings don’t scale forever, and they don’t even live forever. Most server facilities currently on the grid were built to operate for 10 to 15 years of usable life. In other words, every facility that’s been running since 1998 to 2003 is rapidly approaching its replacement window. So there’s rising demand and existing capacity depletion. The providers need to build more, not less.”
- “Building is expensive, so I can understand reluctance to overbuild. But this is a global commodity so we will see a whole secondary market of non-local distribution of space evolving. Technically, that’s part of the cloud proposition anyway: making the data center virtual so it exists everywhere from the customer’s point of view. Virtual infrastructure as a service means that I can log in and access a file even though it’s stored down the street, here in my office, over in Seattle or all the way out to Sri Lanka and the experience is the same.”

Carrier-Neutral Data Centers

- “Capacity will be filled at the right price, and the industry is so sensitive to overbuilding that the industry as a whole is not going to overbuild. Maybe fleeting overcapacity will emerge here or there, especially in greenfield markets like those in continental Europe or large parts of North America, but the global market will absorb it.”
- “As a rule of thumb, if you budget \$2 million to computer equipment, you budget \$10 million to the electrical system. You need to run a very high-throughput grid and that isn’t cheap. In fact, it’s rising fast because there’s no real Moore’s Law situation for kilowatt hours. You need to come up with some extremely creative and expensive solutions to run power to very large centers because power drain soars, so cooling needs soar, so power drain soars even faster.”
- “That \$8 million differential gives operators enormous incentive to take some of that money and buy low-power servers. Double the server cost, halve the power drain: That’s a great bargain. SSD [solid-state drive] is not about more cabinets per acre or more bytes per cabinet. It’s about halving that power drain, running cool and dark and light in addition to fast. SSD is rapidly becoming the standard in tier 3 and better centers for just that reason. It lets you scale beyond where you would otherwise hit a very hard wall in terms of physics.”
- “If you don’t want more than about 23,000 square feet of space, you don’t want to build. It’s extremely expensive and you don’t have scale on your side. This applies to operators and customers. Small centers are a loss leader to help a vendor enter a market and get the brand out there while they gather subscriptions for something in the 100,000-square-foot range.”

Pricing is rising. Old providers are hitting scaling constraints and end-of-life concerns. They need to rebuild. New providers are building but not fast.

Founder, Data Center Benchmarking Firm, London

Secondary Sources

A review of data center industry trade sources revealed that a European hosting company is expanding to North America adding to an already competitive market. The New York Stock Exchange has made the move to carrier-neutral data centers. Recent data center market research reveals that data center space is expanding at 9% per year which is not keeping pace with demand.

- **March 18 Data Center Knowledge [article](#)**
French data center OVH enters the North American market with emphasis on the East coast, and plans to expand across the U.S.
 - “European hosting giant OVH has lined up \$181 million to build new data centers in the U.S., as it continues to expand its business into the North American market.”
 - “The French company is known for hyper-growth and an innovative approach to infrastructure design, building custom servers, containers and data centers shaped like giant cubes.”
 - “The company was founded by Octave Klaba in 1999, and operates more than 140,000 dedicated servers in 11 data centers.”
- **Feb. 26 DatacenterDynamics [article](#)**
The New York Stock Exchange makes its datacenters carrier-neutral.
 - “In March, first bits will start flowing between the NYSE Euronext data center in Mahwah, New Jersey, and other sites over infrastructure operated by providers other than NYSE itself.”
 - “New Jersey-based Hudson Fiber Network has beat others to completing a network route connecting the Mahwah site to four others in the state – each of them hosting major-exchange infrastructure. On 1 March, HFN will start providing customers with connectivity to and from the massive NYSE facility, HFN president Brett Diamond said.”
 - “Clients who wanted to connect to NYSE before had to use the exchange operator’s services, such as SFTI. And if demand for services on HFN’s new route is any indication, there has been a need. As of mid-February, the carrier had pre-sold 35% of capacity on the route.”

Carrier-Neutral Data Centers

- “Each of the four data centers on the route besides the NYSE facility has a trading engine. The Verizon data center in Carteret has NASDAQ infrastructure; the Savvis one in Weehawken has BATS; the Equinix facility in Secaucus hosts Direct Edge, while the Halsey data center in Newark is home to NYSE’s SFTI infrastructure.”

➤ **Dec. 24, 2012 Computer World [article](#)**

The increased demand for outsourcing data center space outweighs the amount of data centers available, which will push data centers to move toward cloud offerings.

- “The amount of data center space is growing, on average, about 9% a year, the market research firm said.”
- “‘In most areas, demand is really rising and growing faster than supply,’ said Kelly Morgan, research manager for multi-tenant data centers at 451 Research. ‘The result is that data centers are filling up.’”
- “In its report, 451 Research said there is ‘an unstoppable move’ to the cloud to host production workloads as well as to outsource services. Financial services and health care are leading the trend.”
- “Extreme weather, such as Hurricane Sandy, is also encouraging the trend to move operations to multi-tenant centers.”

Additional research by Carolyn Marshall, Scott Martin, and Guido Gualandi

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