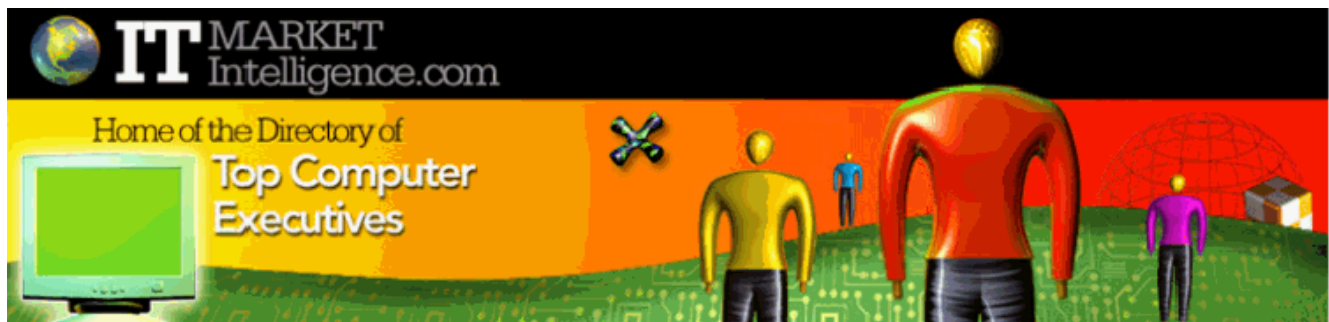


Defining the Data Center Market and Data Center Market Size

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If you are in the business of selling data center related products or services, one of the biggest challenges you face is simply identifying which organizations have a need for those products or services. Here is an approach to market identification that offers better market coverage and a solid approach to targeting markets.

Market Identification Challenge 1

Which organizations have data centers? The vast majority of marketing data sources do not specifically identify who has a data center. Data sources that track data center people (typically circulation, community, attendee, and response lists) don't generally focus on comprehensive market coverage on a site by site basis, and consequently leave valuable prospects untouched.

Market Identification Challenge 2

What constitutes a data center? In a 2007 study ACR found that many organizations with less than 20 IT employees felt they had a data center environment. Of that same group, a much smaller number indicated having a raised floor environment, which is generally a good indicator of significant physical infrastructure requirements. These various infrastructure characteristics used to be how we defined a *data center*, but today the words *data center* mean many different things to different people.

Each product marketing initiative, therefore, must define what a data center is to them and segment market data accordingly. Because there is a significant shortage of detailed technical data in most marketing databases, each market segmentation project must combine target market requirements with whatever demographic data is available.

Two Basic Steps of Market Identification

The solution to these challenges is to combine knowledge about data center environment characteristics with an understanding of IT-specific demographic market data.

The *first step* is to identify organizations with demographic characteristics that suggest a high probability that there is some form of data center requirements. This identifies the broader total market of organizations that have a need for data center related products or services.

Not every product or service is necessarily appropriate for every organization that has some form of a data center environment, so the *second step* of market identification is determining which organizations within the broader data center market are most appropriate for your specific offering. Along with the simple hard demographics you might use like geography, type of business (vertical market), platform, or operating system, you may also want to target organizations with a raised floor, sites with a specific number of servers, or similar characteristics.

Another significant consideration may be your target price point. For example, if you're looking for sales contracts that start at \$100,000.00 you'll need to be targeting organizations with an IT budget large enough to support that size of a purchase. This too can be factored into a market segmentation exercise.

Market Segmentation for Information Technology

Before the specifics on data center market segmentation are addressed, some general observations about the IT market should be covered. One of the most common approaches to market segmentation for IT-related products is organization size. Although adequate in some cases, organization size is a poor indicator of IT adoption and deployment. Information technology spending is not just a function of gross revenue or total employment, but rather a combination of factors including vertical market and organization culture.

For example, a \$1 billion manufacturing company will spend on average about \$15 million on IT. A \$1 billion financial services company will spend on average \$70 to \$90 million on IT. This illustrates the fact that a certain amount of revenue or number of employees does not have a direct correlation to the overall amount of IT adoption, deployment, or investment. For this reason, it is important to approach market segmentation exercises from an IT size perspective, at least for products sold directly to the IT department, rather than total organization size.

Perhaps one of the most important components of market segmentation is understanding the *rate of data fill*. A field in any database is rarely populated 100% of the time. For example, if a database has the number of IT employees for 75% of all the sites it tracks, that means you'll be skipping 25% of all sites if you simply use IT employment as your sole segmentation characteristic. Twenty-five percent is simply too much of the market to ignore.

To overcome this unavoidable issue a demographic profile for market segmentation should include statistically or comparably equivalent proxy demographic characteristics, which assures the most complete market coverage. This concept is referenced throughout this report, and is important to understand clearly. Simply put, it means using more than one demographic characteristic to be sure you are capturing the maximum number of prospects. For example, based on statistical averages, a \$250 million company will have 30 or more IT employees, or will have 750 or more PCs. If the target demographic characteristic is \$250 million in revenue, the demographic profile would then also include organizations with 30 or more IT employees or 750 or more PCs, or perhaps other statistically equivalent or comparable demographic characteristics.

Data Center Market Demographics

The big issue for marketers is that there is a lack of information about the specific infrastructure characteristics for each IT organization. For this reason we must apply segmentation techniques that target organizations based on what we know about the market in general.

There are three demographic characteristics that have a reasonably direct correlation to an organization's need for data center related products or services: The size of the IT organization, the presence of certain hardware platforms, and the simple existence of a data center/IT operations/infrastructure manager. The appropriateness of each of these characteristics depends on the type of product and potential or targeted markets.

1. Size of IT Organization

The demographic characteristic that most directly correlates to organizations with data center requirements is the number of IT employees. In the following chart the second column represents the number of organizations that answered YES to, "We have what we consider to be a data center environment." The remaining columns reflect only those respondents that affirmed they have a few of the more common data center infrastructure characteristics.

The most interesting contrast is between the data in column 2, "We Have a Data Center," and the data in column 3, "We Have a Raised Floor." Not that having a raised floor is a prerequisite to having a significant data

center, but rather the clear jump to 90% at the 30 IT employee size level for the raised floor data suggests a good cut-off point if you're looking for organizations with significant physical data center infrastructure.

Data Center Infrastructure Characteristics By # of IT Employees

Data Center Characteristics →	We Have a Data Center Environment	Raised Floor	UPS or Generator	Access Security	# In This Size Group
# of IT Employees ↓	%	%	%	%	
1 - 4	53.1	12.5	84.3	46.8	32
5 - 9	65.1	37.2	86.0	81.3	43
10 - 19	79.1	58.3	85.4	93.7	48
20 - 29	89.2	71.4	89.2	92.8	28
30 - 39	84.6	92.3	100.0	100.0	13
40 - 59	86.9	95.6	91.3	95.6	23
60 - 99	100.0	95.6	100.0	100.0	23
100 - 199	100.0	95.2	100.0	100.0	21
200 - 299	100.0	100.0	100.0	100.0	6
300 or more	100.0	88.8	100.0	100.0	9

Note: Data from ACR's *Inside IT Departments: Comparing Organization Size to IT Usage and Infrastructure Traits*.

This data certainly does not identify specific markets for all data center related products or services. However, it does suggest that with regard to physical infrastructure, information technology organizations with 30+ IT employees have an approximate 90% or better probability of having the need for data center related physical infrastructure products and services. Based on industry averages, 30+ IT employees would translate to roughly a \$6 to \$7 million IT budget. This number can later be used to develop a demographic profile using statistically equivalent demographic characteristics.

2. Hardware Platforms

The second demographic characteristic likely to indicate a data center environment is the presence of a large systems environment. The only platform that in and of itself has a reasonable probability of being in a data center environment are the IBM/Hitachi/Fujitsu/Amdahl mainframe systems. Although there are certainly other manufacturers systems that require data center infrastructure, they are not as easily identifiable simply based on their model name. The safer bet is to stick with the tried and true big blue and friends. This is not to suggest that all IBM and compatible mainframe systems are always being operated in data center environments, but rather there is a higher probability that they are.

3. IT Management

The third characteristic is the mere fact that an organization has a dedicated data center, operations, or infrastructure manager. The simple existence of this management role indicates a reasonably high probability that the need for data center related products and services exists. The use of this characteristic will capture prospects in organizations with less than 30 IT employees, although the smaller the organization the less likely this will occur. More important is capturing organizations where there may not be any size data available.

Using the existence of certain types of managers as a demographic characteristic is useful for many types of projects but certainly not for all projects. Many data center related products can be sold to smaller organizations, but the market of smaller organizations is very large. To this end, anything we can do to focus in on those with more potential in the market of smaller organizations by targeting more refined market segments is a big bonus.

How Big is the Data Center Market?

Although this is the most common way the question is asked, it's really the wrong question. The real question is "How big is the market for a specific type of data center product or service?" This report does not attempt to define the individual markets, but rather show the relative size of markets based on the size of IT departments. The chart below is based on the demographic characteristics discussed above and current coverage in the ACR *Directory of Top Computer Executives* (TCE) database. This is based on selecting sites in the U.S. and Canada with a specific number of IT employees or with comparable or statistically equivalent demographic characteristics. The numbers are not mutually exclusive, meaning that the 10+ IT employees group also includes sites with 20+, 30+, or 60+ IT employees. They are aggregate totals.

United States and Canada Data Center Market Currently Represented in ACR's TCE Database Based on Available Size Characteristics Only

IT employees or similar size characteristics	U.S. and Canada Total	U.S. Sites	Canada Sites
10+ IT Employees etc.	18966	16773	2193
20+ IT Employees etc.	13743	12219	1524
30+ IT Employees etc.	10641	9471	1170
60+ IT Employees etc.	6280	5618	662

Note: The TCE database is generally focused on organizations with 250 or more employees. It is important to read the description before these charts to understand the context within which they were developed.

The following chart includes organizations based on size, as in the previous chart, but also any organization with an executive that has a data center related title. For the smaller organizations, 10+, 20+, and even 30+ IT employees, it represents a reasonable additional contribution to the market size estimate. However, as the size label in the first column increases the meaningfulness of simply adding sites with a data center related contact is significantly diluted. In other words, the last row of the following chart indicates 60+ IT employees, but also includes sites with a data center related contact regardless of organizations size. Therefore, it DOES NOT represent an estimate of organizations with 60+ IT employees.

United States and Canada Data Center Market Currently Represented in ACR's TCE Database Based on Size Characteristics OR Any Sites Where There is a Data Center Related Contact

IT employees or similar size characteristics	U.S. and Canada Total Sites	U.S. and Canada Total Contacts	U.S. Sites	U.S. Contacts	Canada Sites	Canada Contacts
10+ IT Employees etc.	20529	28192	18065	24833	2464	2259
20+ IT Employees etc.	16175	23043	14250	20339	1925	2704
30+ IT Employees etc.	13830	19992	12159	17629	1671	2363
60+ IT Employees etc.	11607	16667	10176	14703	1431	1964

Note: The TCE database is generally focused on organizations with 250 or more employees. It is important to read the description before these charts to understand the context within which they were developed.

So what's missing from the above numbers? For the market of larger organizations that ACR tracks, we estimate market coverage at between 85% to 95%, depending on the specific market segments. This means that the above numbers, with regard to the market of organizations with 250+ employees, are likely understated by anywhere from 5% to 15%.

Not covered at all in the above numbers are a few areas at the smaller end of the market that may be of interest:

1. The growth in the third-party data center market has been quite significant in recent years and promises to continue growing rapidly. Because most of these companies have less than 250 employees there is not comprehensive coverage of this market. Based on anecdotal evidence we suspect there are about 500 third-party data centers that are offering services beyond the scope of a basic internet hosting company.
2. There are a variety of smaller online based companies that require a significant IT infrastructure. Online backup, communities, retailers, or SaaS are just a few examples of businesses with an online business model. Interesting, but a tough market to identify and target.
3. For organizations with less than 250 employees there are select markets where there is a computer for every employee. For example, verticals like accounting, engineering, software, and legal typically have a close to 1:1 ratio of computer users to total employees. These types of organizations could easily have 200 or so computer users but only a handful of IT employees. The challenge in this market is that there are few sources of IT contact data. Marketers are most commonly using general business data sources with executive level contacts, which assures the most complete market coverage of this market. This market includes roughly 5,000-10,000 companies in those vertical markets with the most intense use of IT, depending on exactly how it is defined.

IT Footprint for an Organization With 200 Computer Users

If having 200 computer users or deployed PCs seems like an appealing market, their technology support profile can be quite different. Here is an illustration of two organizations with 200 deployed PCs, and what their IT infrastructure might look like:

Self-supporting.

15-20 servers, 8-12 hubs, routers, controllers, appliances, etc.

Storage less than 25 TB, a couple tape cartridge units, and perhaps a couple more specialty peripherals.

All told maybe three 42U cabinets, a table with a couple of peripherals on it, a desk with a console and a couple of screens, all crammed into an office anywhere from 150 to 500 square feet.

Heavy focus on outside support.

No centralized servers or storage, but rather a room where the two IT staff show up to stack up busted PCs and monitors. This room includes two or three routers, some hubs, perhaps a couple other boxes like a security appliances. Otherwise, help desk and most support is remote, and servers, storage and applications are hosted. This second scenario is the exception for now, but it is certainly growing market.

Bonus Details on the Data Center Market

Although there are many ways of defining and targeting markets, following are two additional examples that may be useful to data center product vendors.

Number of Servers Supported

The chart below shows the number of servers supported based on the number of IT employees. Marketers interested in targeting organizations based on the number of servers can use this information to establish proxy demographic characteristics. For example, the data shows that 90% of sites with 10+ IT employees are supporting 15+ servers, or that 87% of sites with 40+ IT employees are supporting 25+ servers.

Number of Servers the IT Department Supports By # of IT Employees

# of Servers Supported by IT →	1-4	5-9	10-14	15-24	25-49	50-99	100-199	>199	# In This Size Group
# of IT Employees ↓	%	%	%	%	%	%	%	%	
1 – 4	3.1	31.2	15.6	34.3	9.3	6.2	0	0	32
5 – 9	0	2.3	20.9	23.2	41.8	9.3	2.3	0	43
10 – 19	0	2.0	6.2	14.5	37.5	31.2	4.1	4.1	48
20 – 29	0	0	0	7.1	28.5	50.0	14.2	0	28
30 – 39	0	0	7.1	21.4	14.2	35.7	14.2	7.1	14
40 – 59	0	0	4.3	8.6	21.7	34.7	26.0	4.3	23
60 – 99	0	0	0	4.1	4.1	37.5	37.5	16.6	24
100 – 199	0	0	0	0	9.5	19.0	23.8	47.6	21
200 – 299	0	0	0	0	0	16.6	33.3	50.0	6
300 – 999999	0	0	0	22.2	0	0	0	77.7	9

Note: Data from ACR's *Inside IT Departments: Comparing Organization Size to IT Usage and Infrastructure Traits*.

From a market segmentation or identification standpoint the data can be used to establish a lower size threshold using the more common size characteristic of IT employees as a substitute for the number of servers. The numbers are averages, so the data is not definitive in the sense that many organizations have implemented a systems architecture that may lean heavily on vast numbers of smaller servers, or perhaps focused on a small number of midrange or larger servers.

Incorporate Market Segmentation by Price Point

An additional approach to segmentation, complementary to the above, is calculating who can afford the solution you're selling. If, for example, your target price point is \$150,000 there are simply a limited number of organizations that can afford it. The formula is very simple:

$$\text{Annualized Expense for a product} / \text{Fraction of IT Budget Devoted to that product} = \text{Target IT Budget}$$

For example, if the expense budget (not capital budget) cost is \$150,000.00 for a product category like servers and support, and that expense usually represents 8% of the annual IT expense budget, the formula would be:

$$\$150,000.00 / .08 = \$1,875,000.00 \text{ IT Budget}$$

From this result we can then create a demographic profile using various demographic characteristics statistically consistent with the resulting IT budget. The end goal is simply to identify which organizations can afford a solution at your target price point. An explanation of this approach using data storage as an example is detailed in another report at www.itmarketintelligence.com under the Reports & Reference Lists link.

Market Coverage Strategy and the Time Value of Marketing

Once the appropriate market has been defined and the size of the market established, a market coverage strategy can be developed based on the various sales or marketing techniques and media that are to be used. The *Time Value of Marketing* is simply the process of focusing resources on the most promising accounts in the most timely manner. In addition to an overall market coverage strategy, even with an accurately targeted market, there is often still the opportunity to prioritize market data so that the immediate focus is on the most promising accounts.

Applied Computer Research, Inc. publishes the *Directory of Top Computer Executives*, a database of the largest IT user organizations in the U.S. and Canada. Over 34,000 organizations and 63,000 IT executives are included. ACR uses the techniques discussed in this document to develop sales support and marketing campaign lists for telemarketing, direct mail, email marketing campaigns and field sales support. Visit www.itmarketintelligence.com, or call 800-234-2227 for more details. Contact Alan Howard at 800-234-2227 or alan@topitexecs.com if you have additional questions about this document or its content.

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