# Iron Mountain's secure datacenters: Caves and Manassas

## STEFANIE WILLIAMS, KELLY MORGAN

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The company is targeting high-compliance industries with the ongoing development of its underground facilities in the limestone caverns of Boyers and Kansas City, while building its new site in Manassas.

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It's hard to not be impressed after you tour a heavily guarded 200-acre datacenter campus of a 1,000-acre limestone mine, located 220 feet underground in Boyers, Pennsylvania, home to one of Iron Mountain's most secure colocation facilities. The company recently expanded its other underground facility, located beneath Kansas City, Missouri, adding just over 2,000 square feet of raised floor, with room to continue expanding. The expansion represents just a portion of the company's $150m investment in its datacenters during 2016 and 2017. However, Iron Mountain does not just build datacenters underground. It is building a new facility on an 83-acre site in Manassas, Virginia, which is the first of what will be several on a secure campus. Iron Mountain's focus is on high-security facilities, along with the flexibility to support custom government requirements.

## THE 451 TAKE

Iron Mountain has been a respected name in the records and data management space for many years, but it only officially launched colocation services in 2013. Since then, the company has developed three locations, with a fourth on the way, to serve its highly regulated customers. As Iron Mountain continues to develop its datacenter business, it remains focused on compliance and security as differentiators. The company is seeing internal growth in excess of 20% in this business segment. Good momentum was evident at our recent tour of the Boyers facility. The Manassas location will offer the company even more opportunity to capitalize on federal government demand, as well as demand from enterprises that continue to look for large regional East Coast consolidation points and the service providers that serve these enterprises.

## CONTEXT

Iron Mountain, which was founded in the 1950s, got its start in the secure records storage business. As technology evolved, Iron Mountain expanded its services into the digital world by helping companies manage and store their expansive backup tape libraries. In 2013 the firm formally entered the multi-tenant datacenter (MTDC) space, and it now operates three datacenters, with a fourth under construction. Initially, it mostly targeted customers as a second site/DR site for their infrastructure. Now, however, its largest deployments are all for primary workloads.

Given that many of Iron Mountain's customers are in regulated industries (healthcare, financial services, federal government, etc.), the company has had to become compliant for the services it offers, and to understand compliance in order to explain it to customers. Along the way, Iron Mountain has developed a map that outlines the services it offers, as well as the aspects of the various compliance requirements each service would 'check the box' for. It provides this information to its customers for free. Additionally, customers may now contract with Iron Mountain to do a more thorough compliance-benchmarking project, which can provide them with greater insight into their overall standing when compared with the regulations as a whole.

## BOYERS, PENNSYLVANIA

Iron Mountain's modus operandi is to build out highly secure facilities. The Boyers facility was formerly a limestone mine owned by US Steel, and has been used for storage of items since the mid-1950s. In 1998 Iron Mountain purchased it for $39m. It houses a collection of priceless assets in physical and digital form. Currently, Iron Mountain has more than 300,000 square feet of space for customers and 40MW of capacity. Additionally, there are a number of private datacenters that Iron Mountain has built for customers.

The mine takes advantage of geothermal conditions to power and improve the cooling efficiency of the datacenter. It remains at a constant temperature of 54 degrees year-round, reducing the cost of cooling in the datacenter. There is also a 150-acre subterranean lake, which Iron Mountain uses to circulate cool water to the datacenter infrastructure and back to help expel heat. It is impervious to any type of natural disaster, which reduces the cost of building a hardened shell to house the facility. There are more than 15 generators. The facility has its own fire

department and restaurant. Iron Mountain has 150 people employed here full time, and over 2,000 other people are employed here daily by several highly sensitive federal agencies.

Iron Mountain has a rich history in compliant services, with a broad customer base that includes government, healthcare, financial and other industries relying heavily on compliant datacenters for services. This facility, in addition to all of Iron Mountain's other facilities, has successfully completed audits against standards for FISMA High, SSAE 16, SOC 2, PCI and HIPAA, and is ISO 27001 certified. Additionally, Iron Mountain has extended its RFID-based compliant asset-tracking service for customer equipment to this facility. This aids customers in reducing the effort and cost to comply with various regulatory standards. The company services at this facility include capacity for wholesale and colocation services, multi-homed BGP-based managed internet access, 24-hour remote hands, and a DCIM-enabled portal.

The datacenter offers multiple carriers on-site, and Iron Mountain will work with customers and carriers to support carrier diversity, as well as direct connections from its enterprise customers to the datacenter. Additionally, the datacenter has dark fiber services with connectivity to NoVA, the most densely connected facility in Pittsburgh, as well as a network backbone connection to all Iron Mountain facilities.

## MANASSAS, VIRGINIA

The company broke ground on its 83-acre Manassas site in October 2016. The first of four single-story buildings has 165,000 square feet of space for customers, and is expected to be completed in the third quarter of 2017 (August). Each building is designed for 10.5MW of critical IT load using a Tier III Certified N+1 maintainable design. Power capacity utilizes multiple underground feeds, and Iron Mountain will have access to additional power from a nearby newly constructed substation. There is also abundant fiber on-site and low latency to the major exchange points in nearby Ashburn, Virginia. The estimates for total investment in this project are $441m.

Iron Mountain studied in detail all of the areas of Northern Virginia before choosing Manassas, which has benefited from spillover demand from Loudon County. Over the last five years, the company has observed an improvement in the power delivery by the Northern Virginia Electric Cooperative. The power rates from NOVEC can actually be lower than other parts of Virginia. Also evident is a large increase in deployments from multiple cloud service providers over the last 24 months. COPT brought online more than nine facilities for around 100MW for Amazon in Prince William County, where the personal property tax rate is well below all other jurisdictions in Northern Virginia (on a general rate, and for machinery and tools). And finally, there have been enormous dark fiber builds in the area over the last three years to support the cloud service providers. Dark fiber and lit services exist with local redundant rings back to all of the key Ashburn connection points, as well as the ability to avoid Ashburn if necessary.

## KANSAS CITY, MISSOURI

Iron Mountain's Kansas City datacenter encompasses 22 acres located 110 feet below the surface in one of the city's repurposed limestone mines. The company entered the Kansas City MTDC market in 2005, building out capacity to mirror its Boyers facility. In 2009 the company doubled its footprint to 10,000 square feet. It recently opened a 2,090-square-foot expansion that will support more than 90 cabinets. While the new space (SC3) can be subdivided, it is ideal for a private suite.

Currently, Iron Mountain offers its customers 100% support, creating an environment with no customers on-site. This is primarily due to compliance and security for all customers within each suite. However, the new suite is designed to support on-site customers. The suite includes a private entrance, and Iron Mountain requires that all entrants undergo a thorough background check. Customers in the new suite would need an escort to access any other part of the datacenter. Other features of the suite include Starline Busway, critical infrastructure gallery to remove components from the floor, and office and conference space. Iron Mountain has space adjacent and is prepared to expand with up to four suites of 2,000 square feet each. These suites can be built in 90-120 days.

## COMPETITION

451 Research has identified 17 datacenter providers in Pittsburgh, with Iron Mountain having the highest market share in terms of operational square footage. It is focused on large wholesale deals and supports the security standards required by highly regulated customers.

There is no shortage of competitors in Northern Virginia, and 451 Research has identified 40 datacenter providers. Digital Realty Trust, DuPont Fabros, Data Foundry, COPT, American Real Estate Partners, DBT-DATA, Infomart Data Centers, Lincoln Rackhouse, Sabey Data Centers, CoreSite and CyrusOne all offer wholesale space, in addition to others. COPT and Digital Realty are already in Manassas.

In Kansas City, underground facilities are not entirely unusual. Providers in these limestone caverns are focused on providing highly secure datacenter services with an emphasis on serving industries with stringent regulations, including financial services and healthcare organizations. In Kansas City, Iron Mountain competes in the subterranean wholesale datacenter arena with Cavern Technologies and SubTropolis Technology Center.

## SWOT ANALYSIS

**STRENGTHS**
Iron Mountain is a well-respected company for records and data management, and now for colocation services. It is well managed and funded. It is also known for its ability to serve its highly regulated customers.

**WEAKNESSES**
At this point, Iron Mountain only maintains datacenters in three locations, soon to be four. Customers wanting to have backups in other parts of the country would need to look elsewhere.

**OPPORTUNITIES**
Boyers continues to grow as a popular location for disaster-recovery colocation services. The Manassas location will offer the company even more opportunity to capitalize on federal government demand.

**THREATS**
If customers decide to completely shift workloads to the cloud or leverage native cloud-based storage, Iron Mountain does not yet have a ready solution to back up the associated data. But it has been building its own cloud infrastructure with storage capabilities.