QTS Federal Freedom: A New Design Standard for Data Centers

For U.S. federal agencies pursuing hybrid-cloud, AI/ML, High Performance Compute (HPC) or even those managing legacy enterprise infrastructure, finding a data center provider with available floor space, power and the appropriate security posture to support mission critical workloads is no easy task. QTS Data Centers is investing the time and resources necessary to bridge this gap by providing purpose-built data centers 100% dedicated to federal clients.

The **QTS Federal Freedom Design** is a standard for building and operating data centers specifically for federal government clients. QTS' federal facilities combine the IT essentials of space, power, cooling, and connectivity with government standards for security and operational excellence. These facilities are designed to ensure continuous uptime of even the most demanding IT environments, while also providing the highest levels of security for federal IT resources. As "federal only" data centers, these facilities are reserved for and restricted to federal IT workloads. With a modular design, we standardize facility construction and supply chains to allow federal clients to right-size their IT environments with flexibility for future growth. QTS' Federal Assurance team works with federal agencies to understand their needs, design custom solutions for their IT deployments, and achieve and maintain accreditation. Onsite teams at these federal facilities have the skills and experience to operate sophisticated IT environments. Dedicated security personnel are trained to enforce security according to government standards. QTS federal data centers include multi-layer security countermeasures and security practices extend to facility construction and supply chain management. The Federal Freedom standard represents our commitment to designing and building data centers for federal clients according to federal guidelines.

> QTS Federal Freedom Data Centers are designed, built, and operated exclusively for government clients (and no one else), to provide both continuous uptime and government-level security for federal IT resources.

Federal IT deployments now have a home – QTS' federal data centers.

These facilities are designed, built, and operated according to QTS' **Federal Freedom** standard, which combines the following criteria:

- **Commercial data center standards** – We include the essential IT elements of space, power, cooling and connectivity to support 99.999% uptime and future growth of mission-critical IT footprints.

- **Federal government standards** – Our federal facilities are designed and built to provide government-level security and operational excellence to support federal IT workloads at all classification levels.

QTS' federal data centers solve the problem many government agencies face housing their IT deployments in a facility that is both highly secure, reliable and cost effective. These are not merely data centers, nor are they IT facilities previously used for some other purpose having been converted into data centers.

Since 2003, QTS has built facilities for Fortune 500 companies, cloud providers and the world's leading technology companies. With over 20 years' experience, we bring our expertise into play in building data centers for federal clients. The Federal Freedom standard enables us to consistently design and build data centers according to federal guidelines, and to repeat that design across multiple facilities.

"Federal Only" Data Centers

The Federal Freedom standard starts with establishing and building certain QTS facilities as "federal only" data centers. In other words, these facilities *are reserved for and restricted to federal workloads only.*

Only federal agencies and companies or organizations supporting federal workloads are allowed to have IT footprints in these facilities. This secures the federal data center against outside intrusion by any commercial businesses, especially foreign-owned companies.

In today's data center market, it's much harder for government agencies to find available mission-critical IT facilities. Thanks largely to skyrocketing investments in AI technology, the demand for data centers far outpaces the supply. Many providers have started pre-leasing their data centers before they are even built. Enterprise companies and hyper scalers are reserving space and power in facilities still under construction, or still on the architect's drawing board.

But since QTS' federal facilities are reserved for federal clients, there is no danger data center space and power will be "snapped up" by enterprises or hyperscalers. Having "federal only" facilities gives federal agencies additional time to go through the procurement process, refine their data center requirements, finalize migration plans, etc., before selecting a facility to house their IT deployment.

Our federal campuses are in key areas – Northern Virginia, Texas, and Colorado – where government agencies require easy access to data center services. Since each facility is located on a separate power interconnect, federal agencies can establish redundancy by replicating IT deployments in several QTS federal data centers with redundant deployments to support continuity of operations. If power goes down at one campus, the agency's federal IT environment can continue to operate at the redundant federal campus(es).

Consistent and Flexible Modular Design

Federal Freedom uses modular blocks to build out data centers in 1.5MW units. Using standardized construction practices allows QTS to build quickly and efficiently. For federal clients, this provides numerous advantages:

- **Secure Power Distribution** – Clients can request a dedicated power distribution lineup, from the power source to the racks.

- **Right-Sized IT Deployments** – IT environments are given exactly as much space and power as they need. There is no "one size fits all" mentality. Whether the solution is 10 racks or 10MWs, Federal Freedom can accommodate.

- **Flexibility for Future Growth** – As a federal agency scales up its IT footprint, QTS can accommodate that growth, providing additional power to right-size with the expansion.

- **Faster Installation** – Modular power enables QTS to easily add additional power at their data centers in a shorter time frame than other providers (e.g. six months instead of two years).

- **Reliable Supply Chain** – Federal Freedom allows QTS to standardize procurement of supplies (e.g. UPS systems, generators) requiring long lead times. It enables QTS to buy

QTS Data Center Locations

Legend:
- QTS Data Centers
- Power Interconnections
- Federal Campus

Map labels: Hillsboro, Salt Lake City, Denver-Aurora, Sacramento, Santa Clara, Phoenix, Glendale, Chicago, New Albany, Overland Park, Irving, Fort Worth, San Antonio, Jersey City, Piscataway, East Windsor, Ashburn (4), Manassas, Richmond, York-Charlotte, Suwanee, Atlanta, Fayetteville, Miami

these supplies in bulk and to obtain favorable pricing and delivery schedules. By pre-purchasing equipment, QTS has inventory on hand and can ship supplies between data centers or from warehouses to data centers to quickly build out or expand federal IT deployments.

Custom Solutions for Federal IT Deployments

QTS works with federal agencies to understand their IT and security requirements and to design custom IT and facility security solutions. Inside these federal facilities, a data hall can be dedicated to one federal agency's IT footprint, individually accredited, and securely interconnected with other data halls. Or a data hall can be shared by several agencies under a co-use agreement, with IT environments separated by walled or caged partitions but securely interconnected to create an integrated mission hub.

The data halls offer a secure, resilient environment to support AI/ML, High Performance Computing (HPC), private cloud, DevOps, and other secure government workloads. Also, QTS' facilities offer technical options such as future-proofing for transition to liquid cooling to support federal HPC IT footprints.

Operational Excellence

The onsite IT teams at QTS' federal data centers have the skills and experience to operate and maintain sophisticated data center environments in facilities providing 99.999% uptime. The IT staff is composed of seasoned operational employees, many of whom are former U.S. civilian or military personnel. They employ Standard Operating Procedures (SOPs) and Maintenance Operations Procedures (MOPs) that are streamlined based on thousands of hours of experience and executed with industry-leading rigor.

Multi-Layered On-Site Security

The Federal Freedom data centers are designed, built, and operated according to *government-level* security criteria to support the highest level of classified and/or unclassified workloads. The construction, layout, and operational security features of QTS' federal data centers go well beyond typical data center security standards and are forward leaning to address potential future security issues.

When entering our federal data centers, all visitors must go through multiple layers of security checkpoints and identity verification, from the perimeter gate to the federal client's data hall entrance. Visitors must have a valid reason to enter the facility and must be escorted during their visit.

Exterior Security Features

The exterior features of a QTS federal data center are designed to protect the facility and its IT deployments from physical attack. The facility is surrounded by a K12 anti-ram, anti-climb fence with a significant setback between the fence and the building. All vehicles must pass through a badge-activated anti-ram barrier and gate and check in with a guard at the site entrance.

Other exterior security features include:

- Reinforced building façade to meet Interagency Security Committee standards for blast protection and progressive collapse for facilities three stories or greater.

- Exterior lighting meeting DoD Unified Facilities Criteria to support detection of unauthorized personnel.

- Locally monitored and recorded exterior camera coverage and regular guard patrols.

- Mail screening facilities with x-ray and trace explosive detection technology.

Interior Security Features

The interior of a QTS federal data center offers enhanced guard coverage with regular onsite patrols. The onsite security staff includes ex-military/law enforcement personnel highly trained to maintain and enforce security standards and operations.

Physical security features inside a QTS federal data center include:

- Enhanced lobby security, including anti-tailgating turnstiles and x-ray/metal detector personnel and package screening.

- Closed-circuit video monitoring of all facility areas, with AI-assisted tracking of personnel on-camera.

- Multiple layers of access controls, including a combination of badge readers and biometric readers (fingerprint and iris).

In many commercial data centers, the power and cooling equipment occupies space on the floor alongside the IT gear. But the Federal Freedom design standard extends the security layout to the IT data halls where access is restricted to authorized personnel only. The power and cooling infrastructure is located in a separate, adjacent room from the IT deployment it serves. This allows QTS technicians to service power and cooling equipment without having to enter the data hall itself, which eliminates
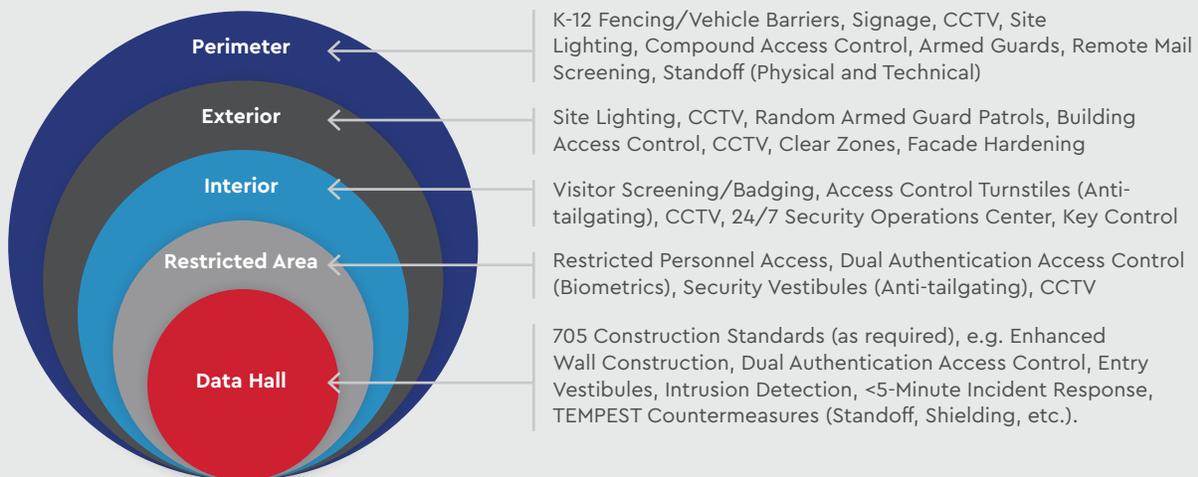
unnecessary access to government IT equipment.

Extended Security Practices

QTS' commitment to security includes site selection, construction, and supply management practices. The sites for our federal campuses are carefully selected with a risk-based assessment for potential hazards. In the construction phase, these data centers are built using U.S. companies and U.S. citizen labor. QTS utilizes surveillance technicians to document and ensure security during construction.

Also, QTS utilizes a robust supply chain risk management process, buying American-made products for federal data centers when possible and employing a host of security measures for supplies. QTS limits information provided to manufacturers and distributors and requires a thorough review of all items manufactured overseas. This allows QTS to obscure where individual supplies are being shipped, which helps to protect them from potential tampering.

QTS Federal Layered Security

Perimeter — K-12 Fencing/Vehicle Barriers, Signage, CCTV, Site Lighting, Compound Access Control, Armed Guards, Remote Mail Screening, Standoff (Physical and Technical)

Exterior — Site Lighting, CCTV, Random Armed Guard Patrols, Building Access Control, CCTV, Clear Zones, Facade Hardening

Interior — Visitor Screening/Badging, Access Control Turnstiles (Anti-tailgating), CCTV, 24/7 Security Operations Center, Key Control

Restricted Area — Restricted Personnel Access, Dual Authentication Access Control (Biometrics), Security Vestibules (Anti-tailgating), CCTV

Data Hall — 705 Construction Standards (as required), e.g. Enhanced Wall Construction, Dual Authentication Access Control, Entry Vestibules, Intrusion Detection, <5-Minute Incident Response, TEMPEST Countermeasures (Standoff, Shielding, etc.).

The Federal Assurance Team

An integral part of the development and operation of QTS Federal Freedom facilities is the Federal Assurance team, which is made up of former government security experts who have previously served in federal organizations (e.g. FBI, CIA, ODNI and DoD). Members of the Federal Assurance team have helped author *several national-level standards* for physical and operational security at government facilities.

Responsibilities of the QTS Federal Assurance team include:

- Collaborating with federal agencies to understand their IT, mission-critical infrastructure, security needs and to anticipate future growth plans.

- Building and maintaining our federal data centers and helping design federal IT environments according to government security requirements and specifications.

- Collaborating with government accrediting officials to ensure that federal IT deployments in our data centers achieve and continuously maintain accreditation, or Authority to Operate (ATO).

- Providing all associated documentation for accreditation, including photos, records,

FREEDOM WALL
DEDICATED TO THE BRAVE MEN AND WOMEN OF THE UNITED STATES ARMED FORCES, LAW ENFORCEMENT AGENCIES, AND FIRE AND EMERGENCY SERVICES PERSONNEL FOR THEIR DEVOTION, SERVICE AND SACRIFICE THAT ENABLES OUR FREEDOMS AND SAFETY. WE PRAY THAT GOD CONTINUES TO BLESS THIS COUNTRY AND PROTECT THE BRAVE MEN AND WOMEN WHO CHOOSE TO SERVE AND DEFEND IT.

attestations and all other assets collected through the deployment process.

A Commitment to Federal Clients

As a multi-billion dollar, U.S.-based organization, QTS has invested heavily in creating federal facilities and has the capital, investment strategy, and entrepreneurial spirit to build these facilities inside or outside the U.S. The Federal Freedom design standard represents QTS' *commitment* to building data centers specifically for housing, supporting, and securing government IT deployments – something very few providers offer.

For federal clients, our expertise and experience in data center design,

construction and staffing translates into more rapid deployment of IT resources, higher security levels, fewer problems and lower IT building and maintenance costs. The process of deploying and managing federal IT environments becomes more predictable, efficient and secure. By entrusting uptime and security for their IT environments to QTS, federal agencies are left free to concentrate on their core missions of employing or developing IT capabilities (such as AI/ML, DevOps, Big Data, etc.) to serve their government programs and objectives.

Visit QTS Federal, LLC at www.qtsdatacenters.com/federal

ABOUT QTS DATA CENTERS

QTS Realty Trust, LLC is a leading provider of data center solutions across a diverse footprint with over two gigawatts of critical power capacity under customer contract in North America and Europe. Through its software-defined technology platform, QTS is able to deliver secure, compliant infrastructure solutions, robust connectivity and premium customer service to leading hyperscale technology companies, enterprises, and government entities. QTS is a Blackstone portfolio company. Visit QTS at www.qtsdatacenters.com, call toll-free 877.QTS.DATA or follow on Twitter @DataCenters_QTS.