

## REPORT REPRINT

# QTS takes its service delivery platform to another level of integration and automation

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The colocation provider's latest release of its Service Delivery Platform adds more cloud-like datacenter automation and API integrations, delivering enhanced infrastructure visibility and online service flexibility for its customers.

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Colocation provider QTS Realty Trust's latest version of its homegrown Service Delivery Platform (SDP) software builds on the platform's operational and infrastructure management capabilities with increased datacenter automation and more API integrations. SDP's API-driven orchestration engine leverages datacenter infrastructure management (DCIM) data as one of its input modules, and extends much further into other IT infrastructure management, operational support and business support systems, as well as cloud capacity to enable broader capabilities, what we deem datacenter service optimization (DCSO). Designed specifically from the ground up to support hybrid environments, SDP delivers real-time visibility, access and dynamic control of critical metrics across a customer's infrastructure from a single platform. Data from SDP is fed into QTS's customer portal interface, which is accessible both online and via a mobile app (supporting iOS and Android).

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## THE 451 TAKE

Hybrid IT environments create increased complexity when it comes to datacenter capacity management and planning. QTS is focused on investing in its SDP software platform to provide enterprises greater visibility across their off-premises infrastructure, allowing for more informed data-driven decisions - making it easier for them to progress on a path that extends to private and public cloud environments. While a growing number of colocation providers are making DCIM data readily available to customers, QTS's strategy for the SDP platform is to bring cloud-like features to colocation, such as orchestration, automation, analytics, APIs and transparency (e.g., operational, usage and pricing), in addition to DCIM features. Its API-friendly approach also enables potential integration with other systems and cloud providers in the future. The company hopes this level of visibility and flexibility, combined with its managed/hosted private cloud and access to public cloud services, will make colocation an even more appealing option for customers that need a hybrid solution.

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## CONTEXT

Overland Park, Kansas-based QTS is a real estate investment trust (REIT) that was formally established as a stand-alone entity with the purchase of the Atlanta-Suwanee mega datacenter in 2005. The company owns, develops and operates enterprise-class, carrier-neutral, secure, compliant multi-tenant datacenters focused on wholesale, retail, and cloud and managed services. Total company revenue in 2017 was \$447m, up 11% year-over-year.

The company's 26 datacenters are located in 10 of the top 25 global markets (including Amsterdam, London, Hong Kong, Sydney and Toronto, in addition to its US sites). The portfolio consists of roughly 6.1 million gross square feet of datacenter space (roughly 2.7 million square feet of raised floor capacity), with a capacity of 670MW and supporting more than 1,200 customers worldwide.

The company is the first MTDC provider to offer colocation, called CloudRamp, on the AWS Marketplace. The service is enabled by QTS's SDP platform and allows customers to order pre-integrated collocated racks with AWS Direct connectivity on demand and have their equipment delivered to one of four QTS datacenters.

The QTS-AWS hybrid IT collaboration makes QTS an AWS strategic colocation provider and features joint sales and marketing efforts. This go-to-market partnership (we anticipate similar announcements with other cloud service providers in the near term) is expected to appeal to a growing number of enterprises adopting hybrid datacenter environments that might, for example, have a 'cloud first' approach to new capacity but retain mission-critical or legacy applications either on-premises or in colocation. The rapid deployment of hybrid cloud infrastructure could make CloudRamp an easy migration path for enterprises considering cloud services.

## TECHNOLOGY

The QTS Service Delivery Platform is a homegrown system architected using a microservices framework and a Cassandra database to aggregate, normalize and analyze data from multiple sources, such as DCIM, cloud orchestration platforms, business support systems, operational support systems, public cloud and other third parties via APIs. The platform currently supports more than 77 customer-facing APIs, has more than 15 integrated partners for hybrid orchestration and is accessible using a web browser or via a mobile app supporting iOS and Android devices.

SDP was designed to support hybrid environments and provide QTS and its customers real-time visibility, monitoring, capacity management, IT asset management and service desk (using integrated ServiceNow software), as well as control of key performance metrics across QTS deployments, among other features. The system is capable of analyzing data to identify customer trends and patterns, and automates functions such as online ordering of services, notification alerts and provisioning.

The Hybrid Cloud Manager (HCM) module is effectively a multi-cloud management platform built into SDP that can perform add/remove/change functions with just a couple of clicks for some of the more standard public cloud services (supporting AWS and Azure), as well as for provisioning QTS's hosted private cloud infrastructure. HCM is only available to QTS's managed public cloud or hosted private cloud customers, and with some back-end setup, it enables self-service administration of services such as data protection, firewalls, load balancing and cloud usage. Other more advanced public cloud controls may require customers to go directly to their public cloud provider portal, and QTS offers services to assist with those types of changes as well.

We view SDP as a DCSO system, rather than DCIM, owing to its aggregation and integration of data from multiple systems. To be sure, DCIM is, however, one of SDP's core data integration services. Some of the new and enhanced features in the latest SDP release include:

- Power analytics – real-time power metrics enable greater efficiency and capacity planning using improved forecasting capabilities that can notify customers of any potential overage, for example. This feature can track to the UPS, PDU and circuit level, and enables customers to set power usage thresholds for alerts. Power consumption can be reported for individual circuits or in aggregate across multiple QTS locations. SDP visualizes primary and redundant circuits, a somewhat unusual feature.
- Asset manager – a new application that offers self-service management of IT equipment ranging from cataloging and tracking colocated assets to rack positioning, physical infrastructure dependencies, and logical and physical connectivity maps and settings.
- Online ordering of cross-connects and remote hands – available for remote hands services and cross-connects using QTS's virtualExchange system (an internally developed software-defined network connectivity fabric).
- Account management – provides on-demand oversight and control of customer portals and environments with granular user permissions and physical access privileges (to be integrated with its ProWatch building access system).

Other benefits of the latest SDP release include the ability to determine if cabinets are over- or underutilized in real time using power analytics, and communication with DCIM systems if, for example, the SDP platform finds an inconsistency between the ITSM system and the electrical power management system.

The QTS Customer Portal is the dashboard serving up SDP data and is currently available to customers at no extra cost. The company is considering a pricing structure for higher-level sensor data and analytics in the future.

The product SDP roadmap for the remainder of 2018 and beyond focuses on increased automation across colocation and both private and public cloud capacities, including increased self-service and digitized controls. The company also hopes to add more hybrid connectivity, connectivity automation, and customer migration services to its hybrid colocation strategy. QTS targets a six-week cadence for new software releases.

## STRATEGY

QTS views the increasing adoption by enterprises of hybrid datacenter environments (a mix of on-premises and off-premises cloud, colocation and managed datacenter capacity) as an opportunity to be a trusted partner for colocation, private cloud and managed public cloud services. It is investing in its SDP software as the central platform for hybrid colocation management.

Earlier this year, QTS revamped its cloud and managed hosting services, previously known as 'C3.' To clarify some misbeliefs, QTS did not unwind its managed services altogether. It retained hosted and managed private cloud services (in partnership with Nutanix, Cisco and Palo Alto), and managed public cloud for AWS with plans to add Azure and Google Cloud Platform at some point. Other hybrid cloud services that QTS will continue to offer (either internally developed or via third-party partnerships) are data protection and resiliency, hybrid cloud management (including cloud capacity utilization and efficiency recommendations in partnership with CloudCheckr), and security and compliance services.

QTS offloaded some of its hosting and managed services that were previously part of its C3 services – for example, its multi-tenant and tailored infrastructure hosting in a partnership with Dallas-based General Datatech (GDT). Customer migration to GDT is expected to be complete by the end of 2018, and GDT is expected to expand its colocation presence within QTS in order to support this customer base as well as additional growth.

## COMPETITION

QTS's competition varies by market and by product because it offers wholesale, retail colocation and managed/hosted private cloud services. For wholesale and retail colocation, it vies with firms such as CoreSite, CyrusOne, Digital Realty, Equinix, Iron Mountain, NTT/RagingWire, Stream Data Centers, T5 Data Centers and Vantage Data Centers.

QTS has first-mover advantage with its colocation provisioning on the AWS Marketplace. In addition, its SDP platform gives QTS a bit of a competitive advantage over some providers when it comes to billing and back-end systems, so it may take some time for the competition to be able to offer a similar service in the AWS Marketplace, but we expect competitive offerings to intensify. Equinix is the top competitor in the category of interconnection, along with other interconnect-focused providers such as Cologix, CoreSite and Digital Realty.

QTS will also be competing with managed service and private cloud firms that offer services that include AWS but extend to the private cloud and other services. Example providers include IBM, Rackspace and local colo and managed service providers such as Databank, Flexential and TierPoint.

## SWOT ANALYSIS

### STRENGTHS

QTS is well-positioned to compete in hybrid colocation services with its integrated and API-friendly Service Delivery Platform, extensive datacenter footprint, and its range of hosted and managed services.

### WEAKNESSES

QTS does not offer as large an interconnect platform as some network-dense peers, although QTS has partnerships with Megaport and PacketFabric as part of an evolving connectivity strategy.

### OPPORTUNITIES

The company's strategy to leverage its SDP platform to deliver a broad portfolio of IT services including hybrid cloud management and managed services could make its colocation services an even more appealing option for enterprises that need a hybrid IT solution.

### THREATS

There is tremendous competition in multiple markets, and several of QTS's competitors are in the same markets plus many more and offer DCIM customer portals, so they may be better able to vie for customers from their larger, more geographically diverse businesses.