Enabling Connected Data Communities
An Industry Manifesto
Over our 15+ year history, we have assembled the largest global platform of multi-tenant datacenter capacity\(^1\), while operating the second largest carrier neutral interconnection platform in the world.\(^2\) We are privileged to serve more than 4000+ of the largest and most innovative companies globally.\(^3\)

These customers continue to solve the most complex infrastructure, connectivity and workload use cases across network peering, hyperscale, low-latency, HPC/Big Data and artificial intelligence. We witnessed a growing trend among the multi-national customers, each deploying and connecting large private data infrastructure footprints across multiple global sites. This drove us to understand more.

We conducted research, built a global database and cracked the code on how to measure, quantify and forecast the growing intensity of enterprise data creation lifecycle and its gravitational impact on IT infrastructure. We published our findings as the Data Gravity Index™, an annual report to facilitate industry dialogue and assist both our Enterprise and Service Provider Customers as they shift their infrastructure strategies to address challenges presented by data gravity.\(^4\)

Today, we are taking the next step, publishing “Enabling Connected Data Communities,” an industry manifesto for next generation interconnection to address data gravity. It’s a vision, a solution approach and a call to action to remove legacy barriers across the interconnection industry, and tackle data gravity head on.

Digital Realty will take a lead role to help the industry overcome data gravity and enable a new era of open, secure and dynamic connected data communities globally; unlocking new opportunities and value for all industries. To get started, we are updating our PlatformDIGITAL® roadmap, taking specific actions to evolve our interconnection capabilities in support of this effort. Additionally, we are inviting industry participants to engage with us to shape our roadmap and jointly collaborate to build open, secure and dynamic connected data communities globally.

We look forward to you joining us on this journey.

Thank you,

Chris Sharp, CTO
Introducing Connected Data Community Approach

DIGITAL ECONOMY
The Digital Economy is remaking both private and public enterprises across all industries, transforming how they create and deliver value.

NEEDS A CONNECTED DATA COMMUNITY APPROACH
This requires a new approach, one that moves beyond cross connects and traditional interconnection backhaul, giving way to an era of open, pervasively connected data communities collocated at centers of data. Digital Realty will be an industry steward championing the transformation towards a connected data community approach – this is our manifesto.

FORCES A SHIFT TO A DATA-CENTRIC ARCHITECTURE
Data Gravity forces a shift to a data-centric architecture, where data is at the center of the architecture and integration is the challenge. Local copies of private, shared and public data sets need to be integrated as part of decentralized workflows which originate and traverse across multiple internal and external platforms, with the ability to support policy enforcement controls, real time analytics and interactive cross-platform orchestration.

REQUIRES A NEW BUSINESS ARCHITECTURE
To succeed, companies need to operate ubiquitously and on-demand, augmented by real-time intelligence to best serve customers, partners and employees across all channels, business functions and multiple points of business presence.

DATA GRAVITY IS THE OBSTACLE
Data Gravity inhibits workflow performance, raises security concerns, and increases costs, all complicated by regulatory and legacy architecture constraints. With Data Gravity, the laws of physics and IT intersect to provide a proxy for a new age of business architectures that enterprises will be driven to adopt and service providers will be pressed to support.
**Vision**

Steps to Capability Evolution

1. **DATA INTEGRATED**
   - Secure data integration of private and public data sets in multi-tenant data centers

2. **TRAFFIC LOCALIZED**
   - Open, multi-platform SDN interconnect & traffic orchestration localizing traffic flows at centers of data

3. **SERVICE CHAINED**
   - Applications, clouds and platforms are service chained with local data sources for workflow orchestration at centers of data

4. **POLICIES ENFORCED**
   - Security and infrastructure controls are colocated at centers of data exchange, instantiating local policy enforcement points to manage entitlement, compliance and zero trust security

5. **COMMUNITY CURATED**
   - Organized by data centricity, a middle mile between the cloud, core and edge, where enterprises, platforms and connectivity providers can unlock trapped value and growth

**Legend**

- SDN Networking
- Controls
- Connected Communities
- Multi-Cloud
- Public Data Sets
- Private Data Sets
- Shared Data Sets
- Policy Enforcement Points
Connecting Centers of Data

To defy data gravity and enable connected data communities requires the implementation of a data-centric architecture. Putting data at the center of the architecture requires the integration of the core, cloud and edge at centers of data to enable data exchange across multiple platforms, providers and workflow participants. As illustrated, the architecture is organized by use and value chain participant to provide a transformational journey map for industry collaboration.
Capability Roadmap

PlatformDIGITAL® Innovation

**COVERAGE**
Deploy where you need

**CAPACITY**
Host what you need, how you need

**CONNECTIVITY**
Connect how you need to whom you need

**CONTROL**
Implement and operate the way you need

- **New Markets** – expansions in EMEA, APAC and LATAM regions led by customer & partner demand
- **Core Markets** – increasing land banks, adding incremental capacity, increasing ecosystem density

- **High Performance Computing** – increasing density options, adding incremental cabling options
- **Blended Product** – blended experience of colocation & mixed configuration deployments, single MSA

- **Native Orchestration**¹ – add open, SDN-enabled cross platform orchestration with partners
- **Native Fabric** – add native, direct network path option between campuses, create multi-path with partners

- **Enriched APIs** – extending direct systems access to customers and partners based on ecosystem priorities
- **Global Portal** – delivering a multi-platform converged interface driven by voice of customer

¹ Acquired Pureport Network, February 2021 for native capability development.

* Contains information and statements which are based on current plans, expectations, estimates, forecasts and assumptions that are subject to change. No representations or warranties are made by the Company or any of its affiliates regarding any such information, statements or projections, and results are not guaranteed.
Call to Action

Industry Collaboration

We have developed an industry transformation roadmap to guide cross industry collaboration to develop connected data community vision & target state architecture.

INDUSTRY COLLABORATION JOURNEY MAP

DATA INTEGRATED
Secure data integration of local copies of private and public data sets

TRAFFIC LOCALIZED
Open, multi-platform SDN interconnect & traffic orchestration

SERVICE CHAINED
Dynamic service chaining of multi-platform services with local data sources

POLICIES ENFORCED
Policy enforcement & controls placed locally at data ingress/egress

COMMUNITIES CURATED
Middle mile between core, cloud, edge unlocking trapped value and growth

Vision
(at centers of data)

Enterprises
(areas to collaborate)

Platforms
(areas to collaborate)

Connectivity
(areas to collaborate)

Data Residency, Sovereignty, Placement & Policies, Analytics & AI

Network Topology, Segmentation, SDN Interconnect Core to Edge

Hybrid Interconnect, Distributed Networking Support, GEO Diversity

Distributed Data Management, Multi-Platform Data Integration

Open, multi-platform SDN interconnect & traffic orchestration

Service Catalogue Instantiation, Data Workflow Management

Hybrid Workflows, NFV Services, APIs, Usage Management

SDN, SD-WAN, SD-interconnect, Global Traffic Management, GEO Diversity

Full Stack Workflow Management & Orchestration

Integrated Network & Security Operations, Security Services

SASE, Hybrid Security & Infrastructure Controls, Cyber-Physical (OT/IT)

Dynamic Discovery, Industry/GEO Specialization, Nested Community Services

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Engage with Us

Today, Tomorrow & Beyond

1. Collaborate Together
   - Roadmap Opportunities
   - Joint Integration/Solutions
   - Solution Workshops
   - Data Gravity Insights Briefing
   - Advisory Role
   - digitalrealty.com/collaborate

2. Learn More
   - Develop Data Gravity
   - Fluency with the Data Gravity Insights Hub
   - digitalrealty.com/data-gravity

3. Subscribe
   - Subscribe below to stay up to date on CTO Blog Series & Roadmap Activities
   - digitalrealty.com/subscribe

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About Digital Realty

Digital Realty supports the world’s leading enterprises and service providers by delivering the full spectrum of data center, colocation and interconnection solutions. PlatformDIGITAL®, the company’s global data center platform, provides customers a trusted foundation and proven Pervasive Datacenter Architecture (PDx™) solution methodology for scaling digital business and efficiently managing data gravity challenges. Digital Realty’s global data center footprint gives customers access to the connected communities that matter to them with 290+ facilities in 49 metros across 24 countries on 6 continents.

To learn more about Digital Realty, please visit digitalrealty.com or follow us on LinkedIn and Twitter.