NEEDHAM, Mass., January 10, 2022 – To compete in a digital-first world, organizations are prioritizing investments in digital tools to augment physical spaces and assets and enable seamless and secure data gathering and analysis. These investments empower organizations to provision enterprise workloads at edge locations in support of innovative edge use cases. New research from International Data Corporation (IDC) examines the infrastructure needs of various edge use cases and how growth in these use cases will create new demands for enterprise workloads.

Edge computing is comprised of IT infrastructure and applications deployed outside of core datacenters to support data gathering and analysis closer to the source. IDC has identified four workloads from its Worldwide Enterprise Infrastructure Workloads Taxonomy that have a significant influence among edge use cases: business intelligence/data analytics; content delivery; text and image analytics; and networking & security. Multiple workloads are combined to support specific edge use cases. For each workload category, IDC ranks the contained workloads by primary, secondary, and tertiary impact on select edge use cases.

Because workloads can reside across a continuum of core, edge, and endpoint locations, edge computing requires a significant amount of coordination among technology and service providers. Similarly, workloads run across a range of compute architectures, requiring a high degree of interoperability and scalability. Accordingly, a symbiotic edge and core to workload relationship is needed to enable workloads based at the core that support the edge, workloads based at the edge that support the edge, and workloads at the edge that support the core. While all three scenarios are important, the report focuses on enterprise workloads that are primarily located at, and managed from, the edge.
The most significant edge workload opportunity is streamlining business intelligence and analytics. Because data management and analysis-related workloads have and are expected to have a major or secondary role in nearly all significant edge use case development, IDC expects it will be one of the primary areas of investment at the edge. Similarly, development tools and applications workloads will see growing investment because of their influence on more forward edge use cases, especially in systems related to advanced AI and robotics. In contrast, IDC doesn't see business application workloads as critical to the development of any major enterprise edge use cases, especially for newer developing areas of edge networks.

"Using digital technologies to improve the safety of people and communities and to increase the resilience of operations are being adopted the most rapidly. Industries such as manufacturing are already recognizing the impact that edge resources are having on operational efficiency and improved product quality," said Jennifer Cooke, research director, Edge Strategies at IDC. "As these platforms become more readily customized and adapted for broader use, the need for more IT infrastructure at the edge will escalate."
"The rapid deployment of edge computing is significantly shaping workload evolution," said Max Pepper, senior research analyst, Infrastructure Systems, Platforms and Technologies. "As edge technology continues to expand in usage in a variety of workplace environments, we are seeing growing interest in expected concurrent workload growth in areas such as business intelligence and analytics, AI/ML-related workloads, and content workloads. While organizations should expect these workloads to be the main areas of edge-related growth, workloads across the spectrum will have critical influence even in minor roles within edge use cases."

The IDC report, Enterprise Edge Workloads (IDC #US48441421), provides an analysis of how enterprise workloads are interacting with and supporting edge use cases. As edge IT service continues to develop and expand, knowing which workloads are having a significant impact becomes more critical in optimizing edge use case development and edge platforms. This document provides an overview of the edge landscape and examples of industry adoption of edge use cases.

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