EXECUTIVE SUMMARY

Communications service providers (CSPs) are hard pressed to match the economy, speed and flexibility of Webscale competitors that increasingly set customer expectations. Unburdened by legacy infrastructures, access issues and complex processes, Amazon, Google, Microsoft and the like are moving into more market domains, threatening the long-term viability of CSPs. Webscale giants use automation technologies to run networks almost like they were data centers, building networks without operator concerns like interoperability and access. CSPs now must find ways to match those offerings or risk further marginalization.

Central Office Re-Architected as Data Center (CORD) is intended to provide CSPs with a clear model to modernize their access facilities to compete in the new network and service environment. In essence, CORD is a defined set of commodity hardware and open-source software components, as well as a recipe for integrating them, updated in thrice-yearly reference implementations by CORD's organization of major operators and vendors with developers. CORD's first release came in August 2016, and its most recent one came in May 2017.

Further, CORD's aim is to improve the economics and agility of communications access networks, allowing faster innovation and greater scalability. Communications industry players want to be as agile as any IT software company to get onto a similar software release curve as those with which they will have to compete. CORD seeks to adopt similar development and engineering strategies and processes as organizations like Google and Facebook with a matching approach of continuous integration.

CORD is an integrated open source solutions platform (rather than a single operating system platform) that incorporates a cluster of commodity servers and white-box switches running the defined CORD software stack, which includes multiple software components and services – most importantly open source platforms including ONOS, OpenStack, XOS and Docker – though not specific access devices, which vary with user network configuration.

CORD & the Future of CSP Automation examines the emergence of CORD as an approach to CO modernization, as vision, platform and reference implementation of a service delivery platform. It reviews the nature of the CORD organization and governance, examines its varieties, tracks its trials and delineates strengths contributing to its broadening acceptance. Further, it projects CORD's future outlook, including adoption levels, and discusses vendor perspectives and CORD's relationship with emerging fog networking.
The CORD organization explicitly identifies its current mission as building an open, evolving reference implementation from commodity servers, white-box switches and open source software (including OpenStack, ONOS and XOS) that incorporates SDN, NFV and cloud, combined with disaggregated access technologies in a common, intuitive, carrier-grade framework with goals of serving as a general-purpose platform to deliver a wide range of services.

CORD & the Future of CSP Automation is published in PDF format.