

# Cognitive Enterprise Networks

Cognitive Business Operations



Globally, businesses are undergoing a paradigm shift by moving from legacy infrastructure to a 'digital future' powered by cloud computing, AI, automation, big data, analytics, and IoT. However, adoption of these technologies can be a challenge — despite offering a definite competitive edge, these technologies cause a massive spike in device, application, and user numbers.

A robust network, capable of supporting this transformation, is clearly the need of the hour to manage high data volumes, multisource traffic flows, and complex application priorities so that technology-driven business models function at an optimum.

Tata Consultancy Services (TCS) enables businesses of any scale to transition their outmoded networks to a flexible, agile, and cost-optimized software-based environment. Our Cognitive Enterprise Networks solution helps businesses build responsive networks with superior control and programmability. Successfully implemented across businesses worldwide, this solution is designed to save opex, improve time-to-market, boost uptime, and dramatically improve customer experience.

## Overview

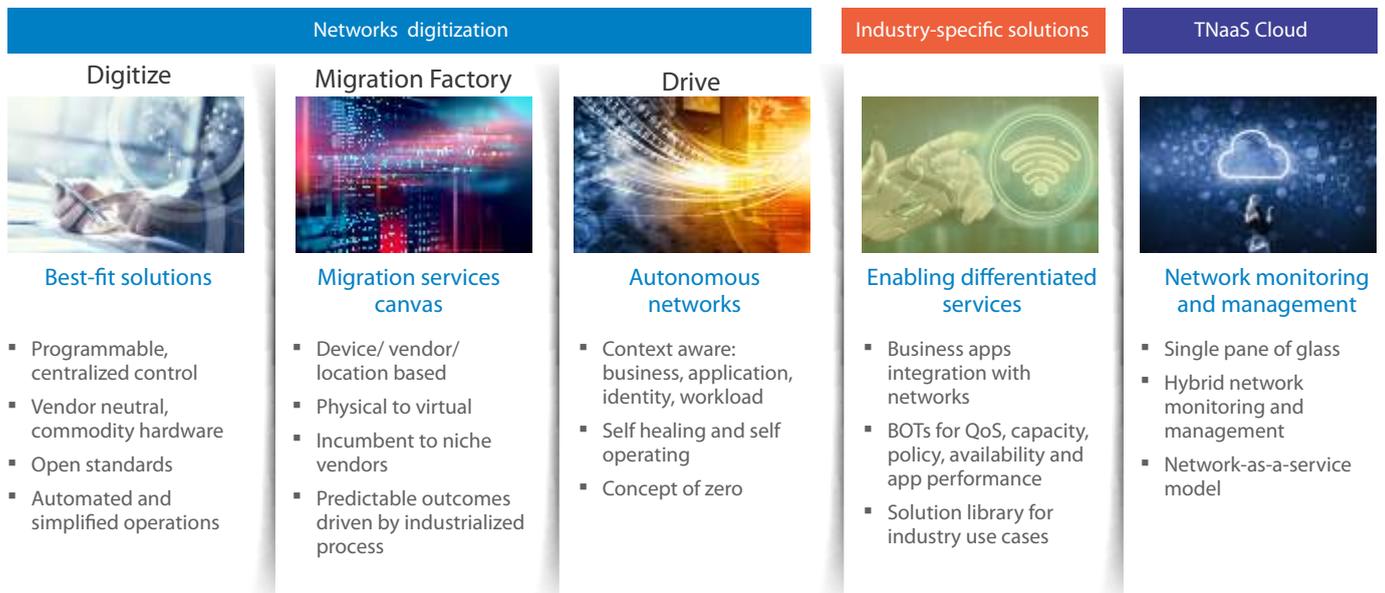
Business leaders are increasingly adopting a new approach to operations and service differentiation through the strategic use of technology. Termed as Business 4.0™, this transformation involves innovations in cloud computing, AI, big data, analytics, and the IoT. However, existing networks are not equipped to handle the rising demand for speed, bandwidth, and automated application support. There are also hybrid environments where legacy networks and next-gen, software-based components must co-exist — at least for the time being. What is needed, therefore, is a solution that offers the flexibility to assess as-is network infrastructure, test alignment with business objectives via a pilot, and partner with a trusted vendor without any lock-in.

TCS' Cognitive Enterprise Networks solution helps enterprises reimagine business networks with a focus on improved performance and quality of experience, and increased service availability. The solution allows companies to closely collaborate with our team to address network pain points from a remote and centralized interface. Further, TCS Cognitive Enterprise Networks is built to support your Business 4.0 journey, envisioned in line with our 'concept of zero': zero human latency, zero vendor lock-in, zero capacity limitations, zero defects, and zero security breach. As a result, companies can leverage cutting-edge technologies without undertaking complex infrastructure expansions or experiencing downtimes.

## Our Solution

The key offerings under TCS' Cognitive Enterprise Networks portfolio (as shown in Figure 1) include the following:

- **Networks digitization:**
  - **Digitize** — helps business leaders select the best-fit solution for their environment; backed by TCS' investments in labs where technical reference architectures and proofs of concept will be outlined for various customers and use cases
  - **Migration factory** — provides a factory approach and industrialized processes, streamlines network transformation in brownfield implementation scenarios
  - **Drive** — initiates the transition from existing connectivity systems to network automation, and finally fully autonomous processes; adjusts the network environment dynamically to changing business requirements
- **Industry-specific solutions:** builds applications for industry-specific use cases making their networks business responsive, so that customers can maximize software defined networking (SDN) implementations in their unique environment; leverages TCS cross-industry experience to reinforce the customer's market positioning
- **TCS network-as-a-service (TNaaS) Cloud:** delivers a cloud-based service to orchestrate and manage network resources within a data center branch as well as wide area networks; TNaaS centralizes the management of hybrid networks via ready-to-use tools and a rich suite of device adapters



**Figure 1: Key offerings in TCS' Cognitive Enterprise Networks**

## Benefits

By utilizing TCS Cognitive Enterprise Networks, customers can:

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**Boost business agility:** introduce network automation and achieve operational/business targets with our comprehensive program charter; use tools such as TCS' hybrid test factory, enterprise services catalog and ROI framework to meet business needs
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**Reduce time-to-migrate:** move to an intelligent network within tight deadlines and predictable migration budgets through our unit-based commercial models (price per port for SDN-DC and price per site for SD-LAN/WAN), lowering infrastructure TCO
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**Improve network visibility and centralize control:** effectively manage a hybrid environment (multi-technology multi-vendor or MTMV infrastructure) at low operating costs with TCS' ready-to-use TNaaS
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**Experience certainty in outcomes:** realize results in sync with enterprise network transformation SLAs, driven by implementations across 200+ customers, where capex/opex savings, service availability, and user experience objectives were successfully met
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**Accelerate design, deploy and provision:** adopt 'NetDevOps' and accelerate the design-to-provision cycle via our 'network function apps' module, laying the foundation for faster product/service launch
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**Strengthen network security:** protect the company network with centralized and context-based security policy auditing and enforcement

## The TCS Advantage

By partnering with TCS, companies can leverage these differentiators:

- Machine First Delivery Model™ (MFDM™):** TCS' expertise in robotics, machine learning, and AI amplifies human-machine collaboration, solving complex business problems faster and better. This Machine First™ approach helps businesses achieve multi-fold productivity improvements and elevate customer experiences
- SDN and 360-degree network expertise:** TCS has a vast pool of associates spanning 6,000+ IT N/W engineers, 600+ SDN technology experts, and 2,500+ certified CCIE/CCNP/CCDA/CCNAs. This is complemented by proven outcomes across 200+ projects, and after handling 410,000+ network devices
- Strategic partnerships:** TCS works with global SDN majors and niche SDN solution vendors. Together, we have invested in state-of-the-art network labs for use case demonstrations, asset testing, joint solution development, and customer-specific PoCs. TCS also partners with telcos to deliver end-to-end WAN as a managed service
- Industry recognition:** TCS was named a global leader in SD-WAN Managed Services RadarView™ 2019 by Avasant; UK and Nordics leader in ISG provider lens study on SDN Solutions and Services 2019; leader in Gartner MQ for Data Center Outsourcing and Infrastructure Utility Services 2018; and North America leader by Forrester WAVE: Global Infrastructure Outsourcing

## Awards & Recognition



### To know more

Visit the [Cognitive Business Operations](#) page on [tcs.com](#)  
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### About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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