

# Digital Enterprise Applications: A Telecom View in 2024

Nihit Gupta

The telecommunications industry is undergoing a shift from traditional hardware-intensive systems to modern, software-driven, cloud-native architectures. In this new landscape, digital enterprise applications (DEA) are playing a pivotal role in supporting and enhancing telecom operations. Here we will explore the current technological shifts in the industry and how digital enterprise applications are powering exciting new use cases.

The changes we're seeing in the telecom industry today are fueled by multiple emerging paradigms, including 5G, cloudification/cloud-native, edge computing, and AI-enabled automation. Thanks to these technologies, which have percolated to the grassroots of digital enterprise applications, telecom operators are now considering digital applications as strategic tools that can be leveraged to unlock new revenue streams and improve customer loyalty. Market-leading enterprise applications, from players such as SAP, Salesforce, Oracle, and ServiceNow, are now embedded within the telecom fabric, helping to manage everything from backend systems to Customer Experience (CX).

## Buy vs build

These platforms have also driven telecom toward a “buy instead of build” mindset. Buying ready-made tools offers telecom operators the benefits of rapid deployment, reduced costs and ongoing support from experts in the field. Many of these solutions also come with built-in features that meet regulatory standards. On the other hand, building a custom solution provides flexibility and customization, but it comes with significant downsides: high upfront costs, long development timelines, and the need for specialized skills to maintain the system. In an industry already grappling with soaring costs, fierce competition, and high pressure to grow, the idea of “building” has become less appealing.

With SaaS and cloud-based solutions as viable options, telecom operators are choosing to stay agile and focus on their core business rather than software development. They are becoming more comfortable with relying on external expertise, drawing on the strength of alliances and partnerships to enhance scalability and agility, reduce time to market, and foster a culture of innovation and customer focus.

**How to cite this paper:** Nihit Gupta "Digital Enterprise Applications: A Telecom View in 2024" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-10 | Issue-3, June 2026, pp.8-10, [www.ijtsrd.com/papers/ijtsrd102004.pdf](http://www.ijtsrd.com/papers/ijtsrd102004.pdf)



IJTSRD102004

URL:

Copyright © 2026 by author (s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



## Enterprise applications in telecom: Evolving perspectives, use cases & advantages

Enterprise applications in telecom have evolved far beyond conventional platforms like customer relationship management (CRM), enterprise resource planning (ERP), and supply chain management (SCM). With AI now percolating many of these applications, operators are utilizing them increasingly to tackle complex BSS and OSS functions:

1. **Billing and inventory management:** The rise of on-demand and subscription-based service models has induced the need for flexible billing solutions in telecom. Operators are adopting pay-as-you-go and usage-based billing to meet market demands. Modern-day ERP solutions use AI to dynamically adjust inventory and billing models based on real-time network demand. They can predict billing inaccuracies and optimize resource allocation — all while minimizing human errors and costly delays. For example, without these advanced systems, managing the billing for multiple, diverse IoT connections for smart city use cases (real-time, dynamic usage basis service quality, usage and network load) can be almost impossible.

**2. Omnichannel CX management and support:**

AI-enabled CRM systems not only track user interactions but also predict customer behavior through sentiment analysis, pattern detection and so on. Invariably, this enables telecom operators to offer hyper-personalized services. Because AI can diligently predict potential service issues, such as network outages or degraded service quality, it naturally improves remediation and communication — ultimately leading to better customer satisfaction. Examples include Salesforce and ServiceNow platforms, whose AI capabilities promise enhanced customer service through automation and real-time insights. Coupled with capabilities related to next-best action, churn prediction, and so on, AI-enabled CRMs can reduce churn rates by up to 15%.

**3. Network management:** This comprises multiple aspects, including service deployment, regulatory compliance, network optimization, and edge management. Modern-day enterprise applications automate dynamic provisioning, load balancing, diagnostics, and fault recovery while efficiently monitoring complex regulations and minimizing operational overheads. They also ensure ultra-low latency for applications like autonomous vehicles and IoT ecosystems, bringing computing power closer to the end-user. Platforms like Microsoft Dynamics 365 offer advanced analytics and automation to enhance network performance and streamline telecom operations.

**4. Real-time data processing and analytics:** Edge computing involves real-time data processing at the network edge, supporting applications that require immediate data processing and low latency, such as autonomous vehicles and real-time video analytics. SAP and Oracle offer real-time analytics and data processing capabilities that support the deployment and management of edge computing solutions.

**5. Smart cities and IoT integration:** The combination of 5G and edge computing facilitates the development of smart cities and widespread IoT adoption. Telecom operators can deploy and manage applications such as intelligent traffic management systems and connected infrastructure using cloud-native and AI-driven solutions. SAP and Oracle offer advanced analytics and integration capabilities to manage and optimize smart city infrastructure and IoT networks.

**Adapting to the new paradigm**

Digital enterprise applications have become crucial in enabling the industry's changing landscape towards

cloud-native architectures, AI-driven operations, and flexible service models.

- SAP solutions, like S/4 HANA, with their real-time data and analytics capabilities, enhance customer interactions and dynamic network management. SAP also supports sophisticated billing scenarios, including usage-based and dynamic pricing models, catering to flexible telecom services.
- Oracle Cloud Infrastructure (OCI) and Oracle Communications Cloud Native Core support scalable and flexible network operations. Oracle leverages AI/ML through tools like Oracle Autonomous Database and Oracle Analytics Cloud to enhance network management, customer service, and operational efficiency. Additionally, Oracle's solutions provide advanced support for managing 5G networks and offer AI-driven predictive analytics for proactive maintenance and network optimization.
- Salesforce's CRM solutions, including Salesforce Communications Cloud and Salesforce Service Cloud, are designed for scalability and flexibility. Salesforce Einstein adds AI capabilities, enhancing customer insights, automation, and personalization. This leads to improved customer experience and targeted marketing efforts across channels.
- ServiceNow's cloud-based platform offers scalable solutions for IT service management (ITSM) and telco-focused customer services. ServiceNow integrates AI to automate IT operations and customer service workflows, supporting zero-touch automation. This streamlines service provisioning and incident management, reducing manual intervention.

**Conclusion**

The future of digital enterprise applications in telecom will be shaped by several emerging trends. As the industry progresses beyond 5G, the development of 6G technology will drive further advancements in network speed, capacity, and capabilities. Digital applications will need to evolve to support the new requirements of 6G networks and services. With the growing volume of data generated by telecom networks and IoT devices, data privacy and security will become increasingly critical — hence, compliance & advanced data protection will need to be integrated in these applications.

Emerging technologies such as blockchain and quantum computing will also present new opportunities and challenges. Greater collaboration

among telecom operators, technology providers, and other stakeholders will be essential. The ability of telecom operators to seamlessly integrate advanced digital solutions into their IT ecosystems will

determine their success in navigating 5G rollouts, managing IoT/edge ecosystems, and enhancing customer experiences.

