NAND RESEARCH

RESEARCH NOTE

LENOVO'S MWC TELCO EDGE ANNOUNCEMENTS

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MARCH 5, 2024

CONTEXT

Lenovo unveiled its latest Edge AI Solutions for the telecom industry at the 2024 MWC in Barcelo, which is aimed at enhancing AI applications across networks. The new solutions are designed to deliver efficient AI computing at scale, supporting the industry's shift towards 5G and AI innovations.

Lenovo also announced collaborations with key telecom partners like Deutsche Telekom, Orange, and Telefonica to deploy AI use cases and achieve faster insights through Lenovo's AI-ready infrastructure.

Let's take a deeper look at what Lenovo announced.

INTEGRATED EDGE SOLUTIONS FOR TELCO

Lenovo's new Integrated Edge AI Solutions for Telco is a comprehensive suite of technologies designed to enhance the telecommunications industry's capabilities in deploying AI applications at scale, particularly at the network's edge.

The solutions aim to harness the power of AI to process vast amounts of data in real-time, enabling transformative applications that can significantly improve operational efficiency and service delivery while reducing energy consumption.

Here's a closer look at the components and the strategic vision behind Lenovo's Edge AI Solutions for Telco:

1. **Purpose-Built for Telecom Transformation**: The solutions are specifically tailored for the telecom sector, supporting its evolution towards 5G and AI-enabled services. This focus ensures that the offerings align with the unique needs and challenges of telecom operators as they transition to more advanced, data-driven networks.

2. **Powerful Edge Computing Capabilities**: At the core of Lenovo's Edge AI Solutions is a robust edge computing architecture that allows data to be

processed closer to where it's generated. This capability is crucial for enabling real-time analytics and insights, essential for applications requiring immediate action, such as public safety and emergency response.

3. **AI-Ready Infrastructure**: Lenovo's solutions provide an AI-ready infrastructure that is the foundation for deploying a wide range of AI workloads. This infrastructure is designed to handle the demanding computational needs of AI applications efficiently, ensuring that telcos can leverage AI technologies to their fullest potential.

4. **Ecosystem of Partners and Customers**: Lenovo is collaborating with leading telecom operators, including Telefonica, Orange Group, and Deutsche Telekom, to bring these solutions to life. These partnerships are crucial to developing and deploying AI use cases that meet the specific needs of businesses and consumers, leveraging the collective expertise and resources of Lenovo and its partners.

5. **Simplified Deployment and Management**: The solutions offer simplified deployment and management of edge-to-cloud AI infrastructure, networking, software, orchestration, and management. This approach reduces the complexity of deploying AI applications at the edge, making it easier for telcos to innovate and deliver new services to their customers.

6. **Energy Efficiency and Sustainability**: A significant focus of Lenovo's Edge AI Solutions is on reducing energy consumption and supporting sustainability goals. By optimizing computing power and efficiency, the solutions help telcos manage their operational costs and contribute to broader environmental sustainability efforts.

NEW THINKEDGE SE455 V3 SERVER

Lenovo announced its new ThinkEdge SE455 V3 server, a key component of Lenovo's Integrated Edge AI Solutions for the telecommunications industry. The new server represents a significant advancement in edge computing, specifically designed to meet the rigorous demands of telco applications, including Open RAN deployments.

Here are some of the defining features and benefits of the ThinkEdge SE455 V3 server:

1. **Designed for Edge AI and Telco Applications**: The ThinkEdge SE455 V3 server supports the deployment of AI workloads and telecommunications applications directly at the network edge.

2. **Powerful Computing Capabilities**: Equipped with advanced processing power, the SE455 V3 can handle the substantial computational demands of edge AI applications. This power allows telecom operators to deploy complex AI models and algorithms at the edge, enabling smarter and more responsive network services.

3. **Energy Efficiency**: A standout feature of the SE455 V3 server is its energy efficiency. This server achieves new levels of power consumption reduction through optimizations and technological advancements, making it an eco-friendly choice for telcos focused on reducing their environmental impact and operational costs.

4. **Enhanced Workload Orchestration**: The server supports double the orchestrated workloads per socket compared to previous models. This capability means telecom operators can run more applications simultaneously without compromising performance, maximizing their infrastructure investment.

5. **Reduced ORAN Power Consumption**: The ThinkEdge SE455 V3 has significantly reduced power consumption for ORAN workloads. Third-party testing has shown over 50% decrease in overall ORAN power usage, highlighting the server's contribution to more sustainable and cost-effective network operations.

By offering powerful computing capabilities, energy efficiency, and enhanced workload orchestration, the SE455 V3 enables telecom operators to deploy AI at the edge efficiently and sustainably, paving the way for a new era of intelligent, data-driven services.

NEW & EXPANDED TELECOM COLLABORATIONS

Lenovo announced new and expanded collaborations with major telecom operators, showcasing its commitment to driving forward the telecommunications industry with its Integrated Edge AI Solutions. These partnerships highlight Lenovo's role in facilitating the deployment of AI and edge computing technologies across the global telecom landscape.

Here are the critical collaborations unveiled:

1. **Telefonica Collaboration**:

    - **Multi-cloud Edge Computing Architecture**: Lenovo has partnered with Telefonica to develop a new edge computing architecture designed for mission-critical applications in smart cities. This collaboration aims to leverage data across urban environments in various AI use cases, such as video analytics and computer vision for public safety enhancements, including smoke and fire detection.

    - **Proof of Concept**: Demonstrated at MWC, this proof of concept showcases the integration of Lenovo's ThinkEdge servers and Motorola's push-to-talk technology within Telefonica's Telco Cloud. The solution highlights how multi-cloud at the edge, combined with AI and computer

vision, can alert public safety officials to potential dangers, enhancing emergency response with real-time AI insights.

2. **Orange Group Partnership**:
    - **Joint Innovation for Telecom and Cloud Services**: The partnership with Orange Group has been extended to support the delivery of high-performance, reliable, and energy-efficient telecom services globally. This includes launching a shared Sylva project validation center aimed at addressing critical areas such as operational efficiency, open radio access, and automation.
    - **Sustainability and Service Improvement**: Together, Lenovo and Orange are focused on assisting worldwide telecom providers in meeting sustainability targets and enhancing services through cutting-edge telecommunication infrastructure solutions.
3. **Deutsche Telekom's Next Generation NIMS Project**:
    - **Cloud-Based Voice Telephony Transformation**: Lenovo supports Deutsche Telekom's transition to cloud-based voice telephony through its next-generation Network Infrastructure Management System (NIMS) project. This initiative involves cloudification and automation to rapidly introduce new functionalities in the voice network, serving over seventeen million customer connections and demonstrating the scalability and flexibility of Lenovo's solutions in large-scale telecom environments.

By partnering with leading telecom operators like Telefonica, Orange Group, and Deutsche Telekom, Lenovo is not just providing the technological foundation for next-generation telecom services but is also actively participating in the creation of innovative use cases that enhance public safety, operational efficiency, and sustainability in the telecom sector.

RAKUTEN CLOUD-NATIVE PLATFORM

The Rakuten Cloud Native Platform is a groundbreaking collaboration between Lenovo and Rakuten to enhance telecom service delivery through advanced cloud computing technologies.

Here's an overview of the Rakuten Cloud Native Platform and its significance in Lenovo's telecom collaborations:

1. **Cloud-Native Architecture**: The Rakuten Cloud Native Platform is built on a cloud-native architecture, which means it's designed to leverage the inherent flexibility, scalability, and resilience of cloud computing. This architecture enables telecom service providers to rapidly deploy and manage applications

and services across distributed computing environments, from the core network to the edge.

2. **Operational Efficiency and Cost Reduction**: One of the primary benefits of the Rakuten Cloud Native Platform is its focus on reducing operating costs and complexity. By automating the orchestration and deployment of applications at the edge, the platform simplifies the management of large-scale telecom networks.

3. **Support for Large Stateful Edge Workloads**: The platform is designed to handle large stateful workloads critical for telecom service providers. These workloads include applications that require consistent and reliable state management across sessions, such as computer vision, voice AI, and generative AI applications.

4. **Award-Winning Innovation**: The Rakuten Cloud Native Platform has been recognized for its innovative approach to telecom infrastructure. By leveraging a cloud-native design, the platform is at the forefront of transforming how telecom networks are built and operated, paving the way for more agile, efficient, and innovative telecom services.

5. **Collaboration with Lenovo**: The partnership between Lenovo and Rakuten on this platform highlights Lenovo's commitment to supporting telecom operators with cutting-edge solutions. Lenovo's infrastructure, combined with the Rakuten Cloud Native Platform, enables telecom providers to deploy AI applications at the edge more efficiently, further enhancing the capabilities of telecom networks to support advanced AI and data-driven services.

The Rakuten Cloud Native Platform, in collaboration with Lenovo, showcases a forward-thinking approach to telecom infrastructure, emphasizing cloud-native principles to drive innovation, reduce costs, and improve operational efficiency.

ANALYSIS

Lenovo's new Integrated Edge AI Solutions directly affect the telecommunications industry's ongoing transformation towards a more AI-driven and 5G-enabled future. These solutions, tailored for the telecom sector, bring the potential of AI at the network edge, where the convergence of cloud infrastructure, IT networks, and edge computing is becoming increasingly crucial.

The collaborations with heavyweight telcos such as Deutsche Telekom, Orange, and Telefonica underscore the industry's recognition of the need for robust, AI-ready infrastructure to deploy diverse AI workloads efficiently.

Lenovo's approach, which emphasizes automated deployment from edge to cloud, including networking, software, orchestration, and management, is a shift towards

more integrated, seamless solutions that can handle the complexity and scale required by today's digital economy.

Lenovo's focus on bringing AI to the edge at scale is timely. As businesses demand faster, more actionable insights from their data, the ability to process it in real-time, closer to where it is generated, is invaluable.

Lenovo faces a challenging competitive landscape. HPE and Dell each have strong edge businesses, with Dell particularly focusing on servicing the telecom industry.

Lenovo’s new Edge AI solutions also reflect a strategic move to further position itself as a leader in the hybrid AI market. By offering a comprehensive portfolio that spans the entire edge-to-cloud continuum, Lenovo is not just selling hardware; it's offering a pathway to digital transformation for the telecom industry and beyond.

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