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The Deloitte On Cloud Podcast

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Title: **Resiliency by design: Deloitte's Ganesh Seetharaman on engineering for reliability and recovery**

Description: In this Knowledge Short, Deloitte's Ganesh Seetharaman breaks down the discipline of resiliency engineering, which is focused on building adaptable systems that are reliable enough to weather and recover quickly from disruptions. He discusses key trends and market shifts including chaos engineering, integrated security, and ways to build resilience in the face of growing operational complexity. Ganesh also emphasizes the importance of using the customer experience to measure success.

Duration: **00:06:58**

Ganesh Seetharaman
Welcome to this Deloitte On Cloud Podcast Knowledge Short, where we delve into specific topics related to system engineering, hybrid infrastructure, and cloud computing. I'm Ganesh Seetharaman, managing director at Deloitte's Hybrid Cloud and Engineering practice. Thank you for joining us.

Today, we will discuss resiliency engineering, a critical discipline in today's businesses. We'll explore the dimensions of resiliency, trends and challenges in the market, and some approaches being employed to mitigate risks and enhance system reliability. In business resiliency context, technology and operational resilience is one of the key fields. It's about what enterprise systems and processes can do, capacity to anticipate, synchronize, respond, and maintain a continuous feedback loop.

With that in mind, let's define resiliency engineering. Resiliency engineering is about building systems, processes, and controls that are not only robust and reliable, but also adaptable and responsive to change. Conventional risk management, business continuity, and disaster recovery approaches are often siloed and outdated. They all fall short in enabling organizations to effectively respond to, and recover from, severe but plausible disruptions in today's changing environment.

Resiliency engineering focuses on key capabilities—architecture fitness that includes technology, embedded security, and processes within solutions architecture: fault tolerance built in, observability to gain visibility, chaos engineering, system reliability and responsiveness, audit and compliance trail, and recovery. By focusing on readiness and response and recovery, companies can significantly enhance their enterprise resilience and system reliability. This engineering approach of adopting "game days" scenario planning and hyper automation allows businesses to effectively anticipate, prevent, respond to, and protect and recover from disruptions, thereby controlling the radius of any adverse events.

What is happening in the market? Why do we say that the era of single instance reliance or deployment is over? Driven by always-on expectations, and customer experience being the key main theme, data protection pressures, regulatory changes, and business convergence are all driving organizations to prioritize secure, hybrid cloud architectures, particularly for low latency applications and high availability workloads.

The key trends that we see in the market include:

1) Slow is the new "down." Poor performance is as harmful as downtime, making user experience a key reliability metric.
2) Security and reliability are twin brothers. Integrating security practices within reliability measures that you know.

3) Misalignment of priorities on reliability. Significant differences in priorities and approaches within enterprise, especially to shift left from the regular lights on approach is causing a lot of delay.
4) Organizational priorities are under pressure, especially to balance release schedules and to add new features.
5) Technology sprawl and debt are costing enterprises multiple tools, redundant system software, increased cost, and increased engineering costs.
6) Chaos engineering goes mainstream. Thorough testing processes are becoming standard to test both known knowns and unknown unknowns.
7) Despite AI, toil levels are on the rise. The toil levels hinder or hamper engineers from focusing on more valuable tasks, such as developing new features or improving the reliability of the systems.

Now, moving on to how to build the culture of resiliency engineering, here are a few ideas to think about. Define a clear ownership with the segregation of duties that overlaps between different functions. Standardize the tech stack and provide visibility at all levels to build the culture of resiliency within your enterprise. Democratize SRE and operational excellence through platform engineering concepts. Adopt continuous resiliency principles, integrating principles like chaos and observability within the DevOps CI/CD pipeline to manage drift and to manage core hygiene. Put a lot of emphasis on customer experience metrics; observe user satisfaction, revenue, and retention rates in addition to MTTR and SLO metrics. Empower the developer community to own resiliency, adopting shift left principles. For standard system robustness and commodity issues, minimize human intervention within the process of incident and problem management, building self-healing systems.

By adopting all these approaches, scaling these indicates a promising future where resiliency engineering becomes more integrated, automated, and focused on delivering exceptional user experience and brand protection.

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