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In 2011, LinkedIn faced growing pains after its successful IPO. The company’s infrastructure was crumbling under the weight of its rapid expansion. At the heart of the problem was Leo, a monolithic Java application that had been the backbone of LinkedIn since its early days. By 2010, Leo was notorious for its failures, causing system crashes, and making it difficult for engineers to deploy new code. Despite scaling efforts, Leo just couldn’t keep up with LinkedIn’s millions of users and queries. This led to painful deployments and late-night firefighting sessions.

To address this, LinkedIn launched Operation InVersion, a bold move where the engineering team paused all new feature development for two months to completely overhaul the company’s architecture. Kevin Scott, LinkedIn’s VP of Engineering, knew this was risky. After all, they had just gone public, and telling management that no new features would be delivered was nerve-wracking. But the team recognized that fixing the core infrastructure was essential for future success.

During Operation InVersion, LinkedIn’s engineers focused on breaking up Leo into smaller, functional, stateless services, creating new tools, and automating code testing. The result? LinkedIn transformed its deployment process, allowing for major updates three times a day instead of every two weeks. The engineering team also regained control of their work-life balance, reducing late-night crises and creating a more innovative environment.

The key takeaway from this case study is that paying down technical debt is crucial for long-term stability. Operation InVersion not only solved LinkedIn’s immediate infrastructure issues but also set the company up for future growth and innovation. By prioritizing stability, LinkedIn empowered its engineering team to focus on building better, more reliable features for its users.

Reference:

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