



Ensuring Business Continuity and Compliance:
*The Importance of Software Escrow and Technical Verification
Services for Critical Environmental Monitoring Systems*

White Paper

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Introduction

One of the world's largest waste management companies relies on cutting-edge technology to monitor methane gas levels in their landfills, a critical operation for environmental safety and regulatory compliance. To achieve this, the company has invested in software from an innovative start-up provider whose sensors capture and report methane gas data in real time. However, as a small and financially struggling start-up, the risks associated with relying on their proprietary software are significant. This white paper explores the vital role of software escrow and technical verification services in mitigating these risks, safeguarding the waste management company's investment, and ensuring the uninterrupted operation of this business-critical system.

Understanding Software Escrow: A Safety Net for Business-Critical Software

What is Software Escrow?

Software escrow, also known as SaaS escrow or code escrow, is a risk management tool that protects the end user of a software application by holding the source code, documentation, and other critical materials in escrow. This agreement is typically established between the software provider (depositor), the client (licensee), and an independent escrow agent like PRAXIS Technology Escrow. In the event that the software provider goes out of business, fails to maintain the software, or breaches contractual obligations, the escrow materials can be released to the client, allowing them to maintain, update, or transfer the software.

Why Software Escrow Matters for the Waste Management Company

The waste management company's reliance on a start-up provider's technology for monitoring methane levels means that the stability and availability of the software are paramount. Without access to the source code, the waste management

company risks losing control over an essential component of their operations, should the start-up provider become unable to support the software. By securing a software escrow agreement with PRAXIS, the waste management company can ensure continued access to the necessary tools and information, protecting their substantial investment and maintaining operational continuity.

The Importance of PRAXIS' Automated Escrow Service in Agile Development Environments

Agile Development and the Need for Continuous Escrow Updates

Today, most software developers, especially those in start-ups, adopt Agile Development methodologies, which prioritize frequent iterations, updates, and refinements of the software. This continuous development cycle can lead to rapid changes in the codebase, creating challenges for maintaining an up-to-date escrow deposit. PRAXIS' Automated Escrow service addresses this issue by integrating directly with version control systems like GitHub and Bitbucket. This integration ensures that every new update, code change, or documentation adjustment is automatically captured and deposited into the escrow account.

Benefits of Automated Escrow for Business-Critical Applications

Always Updated: Automated escrow ensures that the latest version of the software is always available in the escrow deposit, reflecting the current state of the technology. This is particularly crucial for Agile Development, where software updates can occur daily.

Never-Delete Retention Policy: PRAXIS' service features a never-delete retention policy, preserving every version of the software. This feature provides a comprehensive history of the code's evolution, which can be invaluable during technical verification processes or in the event of a release.

SOC2 Compliance: PRAXIS' automated escrow service is SOC2 compliant, ensuring the highest standards of security, availability, and confidentiality. This is essential for protecting sensitive source code and other proprietary materials.

Technical Verification: Ensuring the Functionality of Escrow Deposits

Why Technical Verification is Crucial

While software escrow provides access to the source code and related materials, it does not automatically guarantee that the software can be built and deployed successfully. Technical verification services are critical in confirming that the escrow deposit is not only complete but also functional. For the waste management company, this means having the assurance that the software that monitors methane gas levels can be maintained and operated independently if needed.

Levels of Technical Verification

PRAXIS offers a range of technical verification services, each designed to assess different aspects of the escrow deposit:

Level 1 Audit – Deposit Index & Accessibility: Aims to confirm accessibility of the files, ensure readability, determine the presence of passwords or encryption mechanisms, and the inclusion of such keys to unlock protected files.

Level 2 Audit – Inventory and Analysis: Preceded by a Level 1 Audit, PRAXIS will inspect and analyze the deposit material for the presence or absence of: Source code, build instructions, third party tools and any other information such as libraries, operating systems, development and production environments or hardware, when applicable to confirm a software engineer's ability to independently build the product.

Level 3 Test – Remote Compile Evaluation: Preceded by Levels 1 & 2 Audits, PRAXIS compiles the software, in order to witness, evaluate and produce a video capture of

the depositor building the software from source code while identifying the necessary steps, resources and artifacts for the build process. The video file is placed alongside the source code, credentials, documentation, and other information as part of the deposit materials.

Level 4 Test – Simulated Release: Preceded by all other levels, PRAXIS performs a series of short-term tests on the Deposit Materials. The goal is to determine whether a “reasonably skilled” software engineer can utilize the Deposit Materials and associated documentation to compile and deploy the application independently, without the support of the Depositor. At this testing level, it is common for build steps, instructions, and other pertinent information to be incomplete. This test helps identify deficiencies in the Deposit Materials, build instructions, or other documentation. Where necessary, PRAXIS will interface with technical contacts at the Depositor to rectify issues, receive updated Deposit Materials, and/or obtain revised documentation.

Remote Compile Verification Process

PRAXIS’ Level 3 Remote Compile Verification involves conducting a Remote Compile Evaluation, where PRAXIS witnesses and evaluates the build process of the software from the source code. This process includes:

Preparation: PRAXIS first completes the preliminary levels of verification, ensuring that the necessary materials and documentation are present.

Build Process Evaluation: During the evaluation, PRAXIS remotely observes the depositor building the software, capturing every step of the process through a screen recording. This detailed capture includes identifying all steps, dependencies, and tools required to compile the application.

Comprehensive Reporting: Upon completion, PRAXIS provides a detailed report of its findings, including the functionality and completeness of the deposit materials.

Although this report does not guarantee that every aspect of the software will function as intended, it offers a deeper qualitative insight into the escrow deposit.

Screen Capture Video: The screen capture video serves as a valuable reference, documenting each step of the build process. It can be used by the waste management company's technical team to replicate the process, ensuring that the software can be maintained or transferred to another developer if necessary.

Mitigating Risks and Ensuring Operational Continuity

Protecting Against Provider Failure

Given the financial instability of the start-up provider, the waste management company faces a significant risk of service interruption. A well-maintained escrow deposit combined with regular technical verification ensures that the company is not left without options. In the event of a provider failure, the waste management company can access the most recent version of the software, along with detailed documentation and a step-by-step guide to compiling the application, reducing downtime and maintaining compliance with environmental regulations.

Ensuring Long-Term Viability of Critical Systems

The regular Level 3 Technical Verification service offered by PRAXIS helps ensure that the escrow deposit remains functional and up to date. By conducting these evaluations annually, the waste management company receives continuous confirmation that the software can be built and deployed as needed, ensuring long-term viability and reducing the risks associated with relying on a single, financially unstable provider.

Conclusion

Software escrow and technical verification services are indispensable tools for companies that rely on business-critical software, especially when sourced from start-up providers with uncertain futures. PRAXIS Technology Escrow offers a robust solution that not only protects the waste management company's investment but also ensures that their methane monitoring technology remains operational in all circumstances. With automated escrow deposits, comprehensive Level 3 Technical Verification services, and detailed reporting, PRAXIS provides peace of mind and a secure pathway to business continuity.

About the Author

Chris Smith is Founder and CEO of PRAXIS Technology Escrow, LLC and a veteran of the technology escrow industry since the late 1990's. Throughout much of the past three decades, Chris has helped financial institutions, Fortune 500 companies and countless software and technology companies implement customized technology escrow solutions. Chris has held executive level positions with Iron Mountain, the NCC Group and was Co-Founder and President of Escrow Associates, LLC which was acquired by NCC Group in 2011. Throughout his career Chris has been an educator and is certified to deliver continuing legal education (CLE) courses in several states.

About PRAXIS Technology Escrow, LLC

This white paper was written for technology leaders and decision makers of corporations, healthcare organizations and governmental organizations who are considering risks related to SaaS applications. PRAXIS is a worldwide provider of highly customized software and technology escrow services based in Atlanta, Georgia.

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