

# KeyNexus AI

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## \_abstract

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KeyNexusAI is a distributed cryptanalysis platform that leverages HPC schedulers (SLURM, PBS, LSF) and AI-driven techniques to automate and accelerate large-scale password-recovery campaigns. New datasets trigger sessions automatically, tracked end-to-end, and executed across clusters with pluggable engines like Hashcat or John the Ripper.

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## \_supported formats & encryptions

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- Documents: PDF, MS Word, Excel, PowerPoint, RTF,...
- Archives: ZIP, 7zip, RAR,...
- Wireless: WPA, WPA2,...
- Database & System Files: database files, Windows account unlock,...
- Disk Encryption: BitLocker, FileVault2, APFS, TrueCrypt, VeraCrypt,...
- Customized algorithms for new kind of encryptions or encryptions with non-standard parameters

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## \_licensing & support

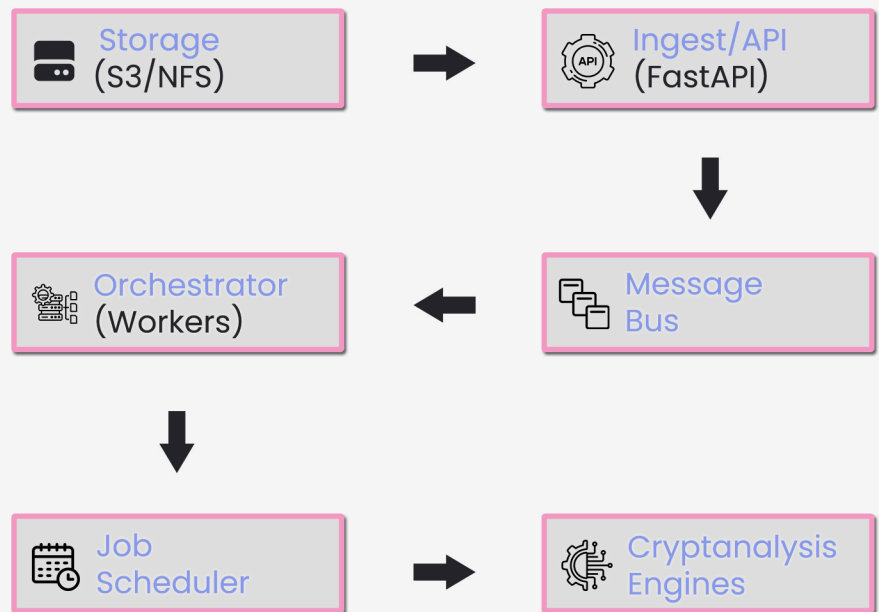
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- License: Perpetual use
- Updates: Annual support included



# Key Nexus AI

## \_reference architecture



## \_hash algorithms & attack modes

### - Documents & Programs:

- \* Adobe PDF 1.4-1.6/Acrobat 5-8, PDF 1.7 Level 3(Acrobat 9), PDF 1.7 Level 8/Acrobat 10-11
- \* .doc, .docx, .xls, .xlsx, .ppt, .pptx, .rtf
- \* .zip, .7zip, .rar (Rar 3.x, Rar 5.x)
- \* WPA, WPA2, Windows passwords, Bitlocker, FileVault2, APFS, TrueCrypt, VeraCrypt, ...

- **Extended Hash Functions:** MD4, MD5, SHA-1, SHA-2, SHA-3, RIPEMD, BLAKE2b, bcrypt, PBKDF2, DES, AES, RSA...

- **Attack Types:** Brute-force, Dictionary, Hybrid, Rule Based... with auto-save and resume capability

## \_dictionary builder

- **AI-powered** generation of dictionaries tailored to target password habits (e.g., Vietnamese users or specific organizations).
- **Pre-built** dictionaries in English, German, Russian, French, Chinese, Spanish, and Vietnamese.
- Each dictionary contains at least **500,000 unique entries**.
- **Dictionaries management** with friendly user interface