Ransomware is a type of malicious software that has been around since the early 2000s. The fir st known ransomware attack occurred in 2005, when the "WannaCry" worm infected computers across the world, demanding payment in exchange for restoring access to the encrypted data. S ince then, ransomware attacks have become increasingly common and sophisticated, targeting i ndividuals, businesses, and even critical infrastructure such as hospitals and government agenc ies.

The history of ransomware can be traced back to the following milestones:

- 1. Early beginnings (2000-2003): The first known ransomware, "AIDS," was discovered in 2000. This early version of ransomware primarily affected Windows operating systems and demanded payment in the form of floppy disks or CDs.
- 2. Widespread adoption (2004-2007): Ransomware became more widespread during this period , with the emergence of new variants like "Fate" and "Gibon." These later versions included feat ures like file encryption and decryption, making them more difficult to remove.
- 3. Cryptolocker era (2008-2011): In 2008, the "Cryptolocker" ransomware made headlines by be ing the first to use advanced encryption techniques, such as AES and RSA. This made it much harder for victims to recover their files without paying the demanded ransom.
- 4. The rise of cryptocurrency (2012-present): As cryptocurrencies like Bitcoin gained popularity, ransomware developers began using them as a means of receiving payments anonymously. This strend continues today, with many ransomware strains accepting cryptocurrency payments directly.
- 5. Targeted attacks (2013-present): While earlier ransomware attacks were often indiscriminate, modern variations are designed to specifically target vulnerable organizations, such as healthca

re providers, financial institutions, and government agencies. These targeted attacks often involve extensive research into the victim's network defenses before launching an attack.

- 6. Nation-state sponsored attacks (2015-present): There has been evidence of nation-states sponsoring ransomware attacks, particularly against political adversaries. For example, in 2015, the United States accused North Korea of launching a series of ransomware attacks against American targets.
- 7. Escalation of attacks on critical infrastructure (2017-present): With the increasing reliance on t echnology in various sectors, including energy, transportation, and manufacturing, ransomware attacks have started to affect critical infrastructure. For instance, in 2017, the "NotPetya" attack compromised Ukraine's power grid and spread to other countries, causing significant economic damage.
- 8. Emergence of new trends (2019-present): The recent evolution of ransomware includes the d evelopment of " double extortion" tactics, where attackers threaten not only to publish stolen dat a but also to destroy it. Additionally, there has been an increase in "fileless" ransomware, which resides entirely within a victim's computer system without leaving any trace.

In summary, ransomware has evolved significantly over the years, from relatively simple and str aightforward attacks to highly sophisticated and targeted operations. As technology advances, s o do the methods used by cybercriminals to carry out these attacks, highlighting the need for continued vigilance and proactive security measures.