[Template:Use dmy dates](/wiki/Template:Use_dmy_dates" \o "Template:Use dmy dates) [Template:Orphan](/wiki/Template:Orphan) [Template:Infobox software](/wiki/Template:Infobox_software) **Denuvo Anti-Tamper**, or **Denuvo**, is an [anti-tamper technology](/wiki/Anti-tamper_software) developed by the Austrian company [Denuvo Software Solutions GmbH](/wiki/Denuvo_Software_Solutions_GmbH), a company formed through the [management buyout](/wiki/Management_buyout) (MBO) of [Sony DADC DigitalWorks](/wiki/Sony_DADC).

## Technology[[edit](/index.php?title=(none)&action=edit&section=1)]

Early reports suggested that Denuvo Anti-Tamper "continuously encrypts and decrypts itself so that it is impossible to crack."[[1]](#cite_note-1) Denuvo Software Solutions has stated that the technology "does not continuously encrypt and decrypt any data on storage media. To do so would be of no benefit in terms of security or performance." The company has not revealed how Denuvo Anti-Tamper works.<ref name=Denuvo>[Template:Cite web](/wiki/Template:Cite_web)</ref> The Chinese [warez group](/wiki/Warez_group) [3DM](/wiki/3DM) claimed to have defeated Denuvo Anti-Tamper on 1 December 2014. The group claimed that the technology involves a "64-bit encryption machine" that requires [cryptographic keys](/wiki/Key_(cryptography)) unique to the specific hardware of each installed system.[[2]](#cite_note-2) Later, in early December, the same group released a [crack](/wiki/Software_cracking) for the [video game](/wiki/Video_game) [*Dragon Age: Inquisition*](/wiki/Dragon_Age:_Inquisition), which uses Denuvo Anti-Tamper to protect [Electronic Arts'](/wiki/Electronic_Arts) Origin Online Access DRM.<ref name=Eurogamer/> But this took almost a month, which is unusually long for PC games.<ref name=Eurogamer>[Template:Cite web](/wiki/Template:Cite_web)</ref> Asked about the development, Denuvo acknowledged that "every protected game eventually gets cracked".[[3]](#cite_note-3) *Ars Technica* noted that most legitimate sales for major games happened within 30 days of release, and so publishers may consider Denuvo a success if it meant a game took significantly longer to be cracked.[[4]](#cite_note-4) Games protected by Denuvo require an online re-activation for every hardware upgrade. Denuvo limits activations at 4 hardware upgrades per 24 hours.[[5]](#cite_note-5)<ref name=PCGamesHardware>[Template:Cite web](/wiki/Template:Cite_web)</ref>[[11]](#cite_note-11)<ref name=Gulli>[Template:Cite web](/wiki/Template:Cite_web)</ref> Denuvo Software Solutions responded by claiming that "Denuvo Anti-Tamper does not constantly read or write any data to storage media."[[12]](#cite_note-12)

## List of protected games[[edit](/index.php?title=(none)&action=edit&section=3)]

Games that are officially acknowledged to use, or reportedly use, Denuvo Anti-Tamper include:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Publisher** | **Developer** | **Release Date** | **Source** |
| [*FIFA 15*](/wiki/FIFA_15) | [Electronic Arts](/wiki/Electronic_Arts) | [EA Canada](/wiki/EA_Canada) | [2014-09-23](/wiki/2014_in_video_gaming) | [[2]](#cite_note-2)[[13]](#cite_note-13) |
| [*Lords of the Fallen*](/wiki/Lords_of_the_Fallen) | [CI Games](/wiki/CI_Games) | [Deck 13](/wiki/Deck_13) | [2014-10-28](/wiki/2014_in_video_gaming) | [[14]](#cite_note-14) |
| [*Dragon Age: Inquisition*](/wiki/Dragon_Age:_Inquisition) | [Electronic Arts](/wiki/Warner_Bros._Interactive_Entertainment) | [BioWare](/wiki/BioWare) | [2014-11-18](/wiki/2014_in_video_gaming) | [[15]](#cite_note-15)[[16]](#cite_note-16) |
| [*Battlefield: Hardline*](/wiki/Battlefield:_Hardline) | [Electronic Arts](/wiki/Electronic_Arts) | [Visceral Games](/wiki/Visceral_Games) | [2015-03-17](/wiki/2015_in_video_gaming) | [[17]](#cite_note-17) |
| [*Batman: Arkham Knight*](/wiki/Batman:_Arkham_Knight) | [Warner Bros. Interactive Entertainment](/wiki/Warner_Bros._Interactive_Entertainment) | [Rocksteady Studios](/wiki/Rocksteady_Studios) | [2015-06-23](/wiki/2015_in_video_gaming) | [[18]](#cite_note-18) |
| [*Mad Max*](/wiki/Mad_Max_(2015_video_game)) | [Warner Bros. Interactive Entertainment](/wiki/Warner_Bros._Interactive_Entertainment) | [Avalanche Studios](/wiki/Avalanche_Studios) | [2015-09-01](/wiki/2015_in_video_gaming) | [[19]](#cite_note-19) |
| [*Metal Gear Solid V: The Phantom Pain*](/wiki/Metal_Gear_Solid_V:_The_Phantom_Pain) | [Konami](/wiki/Konami) | [Kojima Productions](/wiki/Kojima_Productions) | [2015-09-01](/wiki/2015_in_video_gaming) | [[19]](#cite_note-19) |
| [*FIFA 16*](/wiki/FIFA_16) | [Electronic Arts](/wiki/Electronic_Arts) | [EA Canada](/wiki/EA_Canada) | [2015-09-22](/wiki/2015_in_video_gaming) | [[20]](#cite_note-20) |
| [*Anno 2205*](/wiki/Anno_2205) | [Ubisoft](/wiki/Ubisoft) | [Blue Byte](/wiki/Blue_Byte) | [2015-11-03](/wiki/2015_in_video_gaming) | [[21]](#cite_note-21)[[22]](#cite_note-22) |
| [*Star Wars Battlefront*](/wiki/Star_Wars_Battlefront_(2015_video_game)) | [Electronic Arts](/wiki/Electronic_Arts) | [EA DICE](/wiki/EA_DICE) | [2015-11-17](/wiki/2015_in_video_gaming) | [[23]](#cite_note-23) |
| [*Just Cause 3*](/wiki/Just_Cause_3) | [Square Enix](/wiki/Square_Enix) | [Avalanche Studios](/wiki/Avalanche_Studios) | [2015-12-01](/wiki/2015_in_video_gaming) | [[24]](#cite_note-24) |
| [*Rise of the Tomb Raider*](/wiki/Rise_of_the_Tomb_Raider) | [Square Enix](/wiki/Square_Enix) | [Crystal Dynamics](/wiki/Crystal_Dynamics) | [2016-01-28](/wiki/2016_in_video_gaming) | [[25]](#cite_note-25) |
| [*Unravel*](/wiki/Unravel_(video_game)) | [Electronic Arts](/wiki/Electronic_Arts) | [Coldwood Interactive](/wiki/Coldwood_Interactive) | [2016-02-09](/wiki/2016_in_video_gaming) | [[26]](#cite_note-26) |
| [*Plants vs. Zombies: Garden Warfare 2*](/wiki/Plants_vs._Zombies:_Garden_Warfare_2) | [Electronic Arts](/wiki/Electronic_Arts) | [PopCap Games](/wiki/PopCap_Games) | [2016-02-23](/wiki/2016_in_video_gaming) | [[27]](#cite_note-27) |
| [*Far Cry Primal*](/wiki/Far_Cry_Primal) | [Ubisoft](/wiki/Ubisoft) | [Ubisoft Montreal](/wiki/Ubisoft_Montreal) | [2016-03-01](/wiki/2016_in_video_gaming) | [[28]](#cite_note-28) |
| [*Hitman*](/wiki/Hitman_(2016_video_game)) | [Square Enix](/wiki/Square_Enix) | [IO Interactive](/wiki/IO_Interactive) | [2016-03-11](/wiki/2016_in_video_gaming) | [[29]](#cite_note-29) |
| [*Need for Speed*](/wiki/Need_for_Speed_(2015_video_game)) | [Electronic Arts](/wiki/Electronic_Arts) | [Ghost Games](/wiki/Ghost_Games) | [2016-03-15](/wiki/2016_in_video_gaming) | [[30]](#cite_note-30) |
| [*Eve: Gunjack*](/wiki/CCP_Games) | [CCP Games](/wiki/CCP_Games) | [CCP Games](/wiki/CCP_Games) | [2016-03-28](/wiki/2016_in_video_gaming) | [[31]](#cite_note-31) |
| [*ADR1FT*](/wiki/Adrift_(video_game)) | [505 Games](/wiki/505_Games) | [Three One Zero](/wiki/Three_One_Zero) | [2016-03-29](/wiki/2016_in_video_gaming) | [[32]](#cite_note-32) |
| [*The Climb*](/wiki/The_Climb_(2016_video_game)) | [Crytek](/wiki/Crytek) | [Crytek](/wiki/Crytek) | [2016-04-28](/wiki/2016_in_video_gaming) | [[33]](#cite_note-33) |
| [*DOOM*](/wiki/Doom_(2016_video_game)) | [Bethesda Softworks](/wiki/Bethesda_Softworks) | [id Software](/wiki/Id_Software) | [2016-05-13](/wiki/2016_in_video_gaming) | [[34]](#cite_note-34) |
| [*Homefront: The Revolution*](/wiki/Homefront:_The_Revolution) | [Deep Silver](/wiki/Deep_Silver) | [Dambuster Studios](/wiki/Dambuster_Studios) | [2016-05-17](/wiki/2016_in_video_gaming) | [[35]](#cite_note-35) |
| [*Total War: Warhammer*](/wiki/Total_War:_Warhammer) | [SEGA](/wiki/SEGA) | [Creative Assembly](/wiki/Creative_Assembly) | [2016-05-24](/wiki/2016_in_video_gaming) | [[36]](#cite_note-36) |
| [*Edge of Nowhere*](/wiki/Edge_of_Nowhere) | [Insomniac Games](/wiki/Insomniac_Games) | [Insomniac Games](/wiki/Insomniac_Games) | [2016-06-06](/wiki/2016_in_video_gaming) | [[37]](#cite_note-37) |
| [*Mirror's Edge Catalyst*](/wiki/Mirror's_Edge_Catalyst) | [Electronic Arts](/wiki/Electronic_Arts) | [EA Digital Illusions CE](/wiki/EA_DICE) | [2016-06-07](/wiki/2016_in_video_gaming) | [[38]](#cite_note-38) |
| [*Sherlock Holmes: The Devil's Daughter*](/wiki/Sherlock_Holmes:_The_Devil's_Daughter) | [Bigben Interactive](/wiki/Bigben_Interactive) | [Frogwares](/wiki/Frogwares) | [2016-06-10](/wiki/2016_in_video_gaming) | [[39]](#cite_note-39) |

## References[[edit](/index.php?title=(none)&action=edit&section=4)]

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