**Token Platform—Utilization and Variation Matrix**

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| **Attributes** | **Current Platforms** |
| Card Manufacturer | Gemalto (CAC PIV Endpoint) | Oberthur Card System (CAC PIV Endpoint) | Giesecke & Devrient (CAC PIV Endpoint) | IDEMIA (DoD Alternate Token) | Giesecke & Devrient (CAC PIV Endpoint—Stop GAP) |
| Type of Card | CAC | CAC | CAC | Alternate Token | CAC |
| Product Name | Gemalto TOP DL GX4 144K | Oberthur ID-One Cosmo 128 v5.5 for DoD CAC | G&D Sm@rtCafe Expert v3.2 | IDEMIA Cosmo V8.0 | G+D Sm@rtCafe Expert v7.0 |
| Laser Engraving on back of card | Gemalto TOP DL GX4 144K | Oberthur ID One 128 v5.5 Dual | G&D FIPS 201 SCE 3.2  | IDEMIA Cosmo V8.0 | G+D FIPS 201 SCE 7.0  |
| Communication | T=0/T=CL | T=0/T=CL | T=0/T=CL | T=1 | T=0/T=CL |
| Chip Size (ROM/EEPROM) | 144K | 128K | 144K | 128k | 144k |
| Answer to Reset (ATR) | 3B 7D 96 00 00 80 31 80 65 B0 83 11 17 D6 83 00 90 00  | 3B DB 96 00 80 1F 03 00 31 C0 64 B0 F3 10 00 07 9000 80  | 3B 7A 18 00 00 73 66 74 65 20 63 64 31 34 34 | 3B D8 18 00 80 B1 FE 45 1F 0780 31 C1 64 08 06 92 0F D5(Corrected October 2019) | 3B F9 18 00 00 00 53 43 45 37 20 03 00 20 46 |
| CAC Applet Package | V2.6.2b Applets | V2.6.2b Applets | V2.6.2b Applets | V2.7.4 Applets | V2.7.5 Applets (with 2.6.2.b applet capabilities only) |
| Other features\* | Dual interfaceRSA EE 2048 with SHA256 | Dual interfaceRSA EE 2048 with SHA256 | Dual interfaceRSA EE 2048 with SHA256 | Dual interfaceRSA EE 2048 with SHA256 | Dual interfaceRSA EE 2048 with SHA256 |
| Operational Intro Date | June 2016 | June 2016 | June 2016 | February 2018 | November 2019 |
| Operational Sunset Date | January 2020 | January 2020 | January 2020 | TBD | February 2021 |
| Expiration of last card issued | January 2023 | January 2021 | January 2023 | TBD | February 2024 |

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| **Attributes** |  |
| Card Manufacturer | Giesecke & Devrient (Modernized Version of CAC PIV Endpoint) | Gemalto (Modernized Version of the CAC PIV Endpoint) | IDEMIA (Modernized Version of the CAC PIV Endpoint) | Giesecke & Devrient (DoD Alternate Token) |
| Type of Card | CAC | CAC | CAC | Alternate Token |
| Product Name | G+D Sm@rtCafe Expert v7.0 144K DI | Gemalto TOP DL V2.1 144K FIPS | IDEMIA ID-one 125 V8.0D | G+D Sm@rtCafe Expert v7.0 144K DI |
| Laser Engraving on back of card | G+D FIPS 201 SCE 7.0  | Gemalto TOP DL V2.1 144K | IDEMIA Cosmo V8.0 | G+D FIPS 201 SCE 7.0  |
| Communication | T=0/T=CL | T=0/T=CL | T=0/T=CL | T=1 |
| Chip Size (ROM/EEPROM) | 144k | 144k | 128k | 144k |
| Answer to Reset (ATR) | 3B F9 18 00 00 00 53 43 45 37 20 03 00 20 46 | 3B 7D 96 00 00 80 31 80 65 B0 75 49 17 0F 83 00 90 00 | 3B D8 18 00 80 1F 07 80 31 C1 64 08 06 92 0F DF | 3B F9 96 00 00 80 31 FE 45 53 43 45 37 20 0F 00 20 46 4E |
| CAC Applet Package | V2.7.5 Applets (supports existing capabilities and reduce/realign certificate and add asymmetric card authentication certificate (aCAK) for physical security) | V2.7.4 Applets (supports existing capabilities and reduce/realign certificate and add asymmetric card authentication certificate (aCAK) for physical security) | V2.7.4 Applets (supports existing capabilities and reduce/realign certificate and add asymmetric card authentication certificate (aCAK) for physical security) | V2.7.5 Applets |
| Other features\* | Dual interfaceRSA EE 2048 with SHA256 | Dual interfaceRSA EE 2048 with SHA256 | Dual interfaceRSA EE 2048 with SHA256 | Dual interfaceRSA EE 2048 with SHA256 |
| Operational Intro Date | August 2020 | November 2020 | ~March 2022 | ~March 2022 |
| Operational Sunset Date | TBD | TBD | TBD | TBD |
| Expiration of last card issued | TBD | TBD | TBD | TBD |

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| **Attributes** | **Obsolete Platforms** |
| Card Manufacturer | Oberthur Card Systems (OCS) -Original Pilot CAC | Schlumberger (Axalto) CAC | Oberthur Card System CAC | Axalto CAC | Gemplus CAC | Axalto CAC | Oberthur Card Systems (contactless CAC pilot) |
| Type of Card | CAC | CAC | CAC | CAC | CAC | CAC | CAC |
| Product Name | Galactic v1 32K | Cyberflex 32k v2 card with Softmask 7 Version 2 | CosmopolIC v4 32K | Axalto Cyberflex Access 64k v1 soft mask 4 version 1 | GemXpresso (GXP) PRO 64 K | Axalto Cyberflex Access 64k v1 soft mask 4 version 2 | ID-One Cosmo v5.2D 64K |
| Laser Engraving on back of card | OCS Gal 2.1 | Schlumberger Access 32K V2 | Oberthur CosmopolIC v4 | Axalto Access 64KV2 | Gemplus GXP3 64V2N | Axalto Access 64KV2 | Oberthur C.S. Cosmo64 V5.2D |
| Communication | T=0 | T=0 | T=0 | T=0 | T=0 | T=0 | T=0/T=CL |
| Chip Size (EEPROM) | 32K | 32K | 32K | 64K | 64K | 64K | 64K |
| Answer to Reset (ATR) | 3B 7D 11 0000 00 31 80 71 8E 64 86D60200 82 9000 | 3b6500009c02020702 | 3B 7F 11 0000 00 31 C0 53 CAC401 64 52D90400 82 9000 | 3B751200002905010401 | 3B6B00008065B08301047483009000 | 3B751200002905010401 | 3B DB 96 00 80 1F 03 00 31 C0 64 77E30300 82 9000 C1 |
| CAC Applet Package | V1 Applets | V1 Applets | V1 Applets | V2.3 | V2.3 and V2.3.0c Applets | V2.3.0c Applets | V2.6.1 Applets |
| Other features\* | Contact onlyRSA EE 1024 with SHA1 | Contact onlyRSA EE 1024 with SHA1 | Contact onlyRSA EE 1024 with SHA1 | Contact OnlyRSA EE 1024 with SHA1 | Contact onlyRSA EE 1024 with SHA 1 | Contact onlyRSA EE 1024 with SHA1 | Dual interfaceRSA EE 1024 with SHA1 |
| Operational Intro Date | Fall 2000 | N/A | N/A | April 2005 | N/A | N/A | May 2006 |
| Operational Sunset Date | Spring 2004 | End of Spring 2005 | End of Spring 2005 | Q1 CY 2007 | Q1 CY 2007 | Q1 CY 2007 | Q2 CY 2007 |
| Expiration of last card issued | End of Spring 2008 | End of Spring 2008 | End of Spring 2008 | Q1 CY 2010 | Q1 CY 2010 | Q1 CY 2010 | Q2 CY 2010 |

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| **Attributes** | **Obsolete Platforms (Continue)** |
| Card Manufacturer | Oberthur Card Systems CAC | Gemalto CAC | Oberthur Card Systems (CAC PIV Transitional) | Gemalto (CAC PIV Transitional) | Oberthur Card Systems (CAC PIV Endpoint) with PIV endpoint applet and PIV auth cert | Gemalto (CAC PIV Endpoint) with PIV endpoint applet and PIV auth cert |
| Type of Card | CAC | CAC | CAC | CAC | CAC | CAC |
| Product Name | ID-One Cosmo v5.2 72K | Cyberflex Access v2c 64K | ID-One Cosmo v5.2D 72K | Gemalto GemCombiXpresso R4 dual interface | ID-One Cosmo v5.2D 72K | Gemalto GemCombiXpresso R4 dual interface |
| Laser Engraving on back of card | Oberthur ID One V5.2 | Gemalto Access 64KV2 | Oberthur ID One V5.2 Dual | Gemalto GCX4 72K DI | Oberthur ID One V5.2 Dual | Gemalto GCX4 72K DI |
| Communication | T=0/T=CL | T=0/T=CL | T=0/T=CL | T=0/T=CL | T=0/T=CL | T=0/T=CL |
| Chip Size (ROM/EEPROM) | 72K | 64K | 72K | 72K | 72K | 72K |
| Answer to Reset (ATR) | 3B DB 96 00 80 1F 03 00 31 C0 64 77E30300 82 9000 C1 | 3B959540FFAE01030000 | 3B DB 96 00 80 1F 03 00 31 C0 64 77E30300 82 9000 C1 | 3B 7D 96 00 00 80 31 80 65 B0 83 11 13 AC 83 00 90 00 | 3B DB 96 00 80 1F 03 00 31 C0 64 77E30300 82 9000 C1 | 3B 7D 96 00 00 80 31 80 65 B0 83 11 13 AC 83 00 90 00 |
| CAC Applet Package | V2.6.1 Applets | V2.6.1 Applets | V2.6.2 Applets | V2.6.2 Applets | V2.6.2 Applets | V2.6.2 Applets |
| Other features\* | Contact onlyRSA EE 1024 with SHA 1 | Contact onlyRSA EE 1024 with SHA1 | Dual interfaceRSA EE 1024 with SHA1 | Dual interfaceRSA EE 1024 with SHA1 | Dual interfaceRSA EE 1024 with SHA1 | Dual interfaceRSA EE 1024 with SHA1 |
| Operational Intro Date | January 2007 | February 2007 | October 2006/March 2007 | June 2008 | June 2008 | June 2008 |
| Operational Sunset Date | July 2010 | September 2010 | September 2008 | September 2008 | February 2011 | February 2011 |
| Expiration of last card issued | January 2013[[1]](#footnote-1) | January 20131 | September 2011 | September 2011 | January 20131 | January 20131 |

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| **Attributes** | **Obsolete Platforms (Continue)** |
| Card Manufacturer | Gemalto (CAC PIV Endpoint) | Oberthur Card System (CAC PIV Endpoint) | Giesecke & Devrient (CAC PIV Endpoint) |
| Type of Card | CAC | CAC | CAC |
| Product Name | Gemalto TOP DL GX4 144K | Oberthur ID-One Cosmo 128 v5.5 for DoD CAC | G&D Sm@rtCafe Expert v3.2 |
| Laser Engraving on back of card | Gemalto TOP DL GX4 144K | Oberthur ID One 128 v5.5 Dual | G&D FIPS 201 SCE 3.2  |
| Communication | T=0/T=CL | T=0/T=CL | T=0/T=CL |
| Chip Size (ROM/EEPROM) | 144K | 128K | 144K |
| Answer to Reset (ATR) | 3B 7D 96 00 00 80 31 80 65 B0 83 11 17 D6 83 00 90 00 (Updated March 2009) | 3B DB 96 00 80 1F 03 00 31 C0 64 B0 F3 10 00 07 9000 80  | 3B 7A 18 00 00 73 66 74 65 20 63 64 31 34 34 |
| CAC Applet Package | V2.6.2b Applets | V2.6.2b Applets | V2.6.2b Applets |
| Other features\* | Dual interfaceRSA EE 2048 with SHA1 | Dual interfaceRSA EE 2048 with SHA1 | Dual interfaceRSA EE 2048 with SHA1 |
| Operational Intro Date | July/August 2009 | September/October 2010 | August 2013 |
| Operational Sunset Date | June 2016 | June 2016 | June 2016 |
| Expiration of last card issued | June 2019 | June 2019 | June 2019 |

1. Based on USCYBERCOM FRAGO 01-2012, all cards carrying RSA 1024 key size are not accepted within DOD as of 1 January 2013. [↑](#footnote-ref-1)