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REPORT OF INDEPENDENT ACCOUNTANT

To the Management of Microsoft Public Key Infrastructure ("PKI") Services:

We have examined Microsoft PKI Services' management [assertion](#) that for its Certification Authority ("CA") operations in the United States of America and in Ireland, for its CAs as enumerated in [Attachment B](#), Microsoft PKI Services has:

- disclosed its business, key lifecycle management, certificate lifecycle management, and CA environmental control practices in the applicable versions of its Microsoft PKI Services Certificate Policy ("CP") and Microsoft PKI Services Corporation Certification Practice Statement ("CPS") enumerated in [Attachment A](#)
- maintained effective controls to provide reasonable assurance that:
 - Microsoft PKI Services' CPS is consistent with its CP; and
 - Microsoft PKI Services provides its services in accordance with its CP and CPS
- maintained effective controls to provide reasonable assurance that:
 - the integrity of keys and certificates it manages is established and protected throughout their lifecycles;
 - subscriber information is properly authenticated; and
 - subordinate CA certificate requests are accurate, authenticated, and approved
- maintained effective controls to provide reasonable assurance that:
 - logical and physical access to CA systems and data is restricted to authorized individuals;
 - the continuity of key and certificate management operations is maintained; and
 - CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity

throughout the period May 1, 2020 to April 30, 2021, based on the [WebTrust Principles and Criteria for Certification Authorities v2.2](#).

Microsoft PKI Services does not escrow its CA keys, does not provide subscriber key lifecycle management services, and does not provide certificate suspension services. Accordingly, our examination did not extend to controls that would address those criteria.

Certification Authority's Responsibilities

Microsoft PKI Services' management is responsible for its assertion, including the fairness of its presentation, and the provision of its described services in accordance with the [WebTrust Principles and Criteria for Certification Authorities v2.2](#).



Independent Accountant's Responsibilities

Our responsibility is to express an opinion on Microsoft PKI Services management's assertion based on our examination. Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects. An examination involves performing procedures to obtain evidence about management's assertion. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of management's assertion, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

The relative effectiveness and significance of specific controls at Microsoft PKI Services and their effect on assessments of control risk for subscribers and relying parties are dependent on their interaction with the controls and other factors present at individual subscriber and relying party locations. Our examination did not extend to controls at individual subscriber and relying party locations and we have not evaluated the effectiveness of such controls.

Inherent limitations

Because of the nature and inherent limitations of controls, Microsoft PKI Services' ability to meet the aforementioned criteria may be affected. For example, controls may not prevent, or detect and correct, error, fraud, unauthorized access to systems and information, or failure to comply with internal and external policies or requirements. Also, the projection of any conclusions based on our findings to future periods is subject to the risk that changes may alter the validity of such conclusions.

Independent Accountant's Opinion

In our opinion management's assertion, as referred to above, is fairly stated, in all material respects.

This report does not include any representation as to the quality of Microsoft PKI Services' services other than its CA operations in the United States of America, and in Ireland, nor the suitability of any of Microsoft PKI Services' services for any customer's intended purpose.



Other Matter

The World Health Organization classified the COVID-19 outbreak as a pandemic in March 2020. Based on the continued increase in exposure globally, the gravity or length of the impact of the COVID-19 outbreak cannot be estimated at this time.

BDO USA, LLP

July 30, 2021



**ATTACHMENT A - CERTIFICATION PRACTICE STATEMENT AND CERTIFICATE POLICY VERSIONS
IN-SCOPE**

Policy Name for Microsoft Trusted CAs	Policy Version	Policy Date
Microsoft PKI Services Certificate Policy	Version 3.1.2	August 5, 2019
Microsoft PKI Services Certificate Policy	Version 3.1.3	July 28, 2020
Microsoft PKI Services Certificate Policy	Version 3.1.4	February 15, 2021
Microsoft PKI Services Corporate Certification Practice Statement	Version 3.1.3	August 5, 2019
Microsoft PKI Services Corporate Certification Practice Statement	Version 3.1.4	July 28, 2020



ATTACHMENT B - IN-SCOPE CAs

Root CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft ESRP Root Certificate Authority 2017	58B17CFC6CC26A854 CE3CEE99B9CED31	688C6DC8E714FFB0A A7510203108ADB2B0 FBEDD984EC7A0EC11 56F9808603D8D	7/25/2017	7/25/2042
Microsoft Corporation Third Party Marketplace Root	33959C195048719142 38DF73D3B49A3D	2848361A9C1E32DF1 D3E2ED6A7B9E67A52 5CF8A13B164F8006C 9479578F746DE	10/5/2010	10/5/2035
Microsoft Surface Device Authentication Root CA 2014	6F9DA0A6C962B4924 16F0C096A10C4A7	09EC71FD906AE752F 719D4E43ACA977976 0C8BEDF49CD6B1253 CDAA5ABDACF5C	3/20/2014	3/20/2029
Microsoft IEB Services ECC Root 2013	08DFA9B977622FB940 01962C8A412A68	A1E021800C9FE32E5 CC07022A391AC1C65 4F1D794CD5F4FD6F4 8203E275A82C4	4/18/2013	4/18/2038
Microsoft Services Partner Root	7388686D90CB78B645 17735B2F3888B6	4EAC5578779EDA094 585262381739418680 89D3E4974647A62F90 C826E24DB80	8/24/2010	8/24/2035
Microsoft Code Verification Root	729404101F3E0CA34 7837FCA175A8438	CA7791D5C9A1580DC DCAD31D0549FEA204 3E229AA4F4932CFA05 6CA23EB8A950	11/1/2005	11/1/2025
Microsoft Services Federal Root 1	05E52382B560F3B84 F8022EF4D74ACAF	94B67F8C7767AC8D0 E093534DD52398D0B3 818CE3C02B09A010EF 6EF007ED3A5	8/6/2010	8/6/2035
Microsoft IEB Services RSA Root 2013	5378D5D6EF497B804 25015E78456D57E	437D53DAFA52B165B B2FC919F06BFC7DCA 1AA4A95455D072E23 602DF9EEB1C15	3/8/2013	3/8/2038
AP Root Certificate Authority 2014	3F065B95C3D0109D4 DC4120EB0316404	88EFE5CC2FA5891C9 8DF8803B5975127C9 811C8FC79D59CC51C E51FB5753F7ED	1/14/2014	1/14/2039
Microsoft Mobile Root Certificate Authority 2015	1BEB08E2F1187AB94 BFE35C95E2A2D90	A73E7102ED2897DC5 DB7B2941591128A9E 34769DC75577752D1 AE09A908D3352	1/6/2015	1/6/2040
Azure Sphere Root Certificate Authority 2020	15326D2AD2C0C4A3 49DDDA39B4ED1D12	A18A6B15DA52BBFB6 CD591219203BA304B 60D56A67B82D1019F 24EC041043D9A	2/27/2020	2/27/2040

Root CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Factory Root Certificate Authority 2019	39D0A9B3087F60874F3481089F5CA9A8	E55471721F0CD9EAA82F60414FBE48320626070221A21AD2D04D185F4FB0653F	12/11/2019	12/11/2044
Azure Hardware Root Certificate Authority 2019	1CC000D8B98319884CDCF217C1C742D9	7306A1EA0F3ADF2FA90225C2CFE33968FA0393C54D9DFC7A5C815DAC0B32923F	7/3/2019	7/3/2044
Microsoft ECC Development Root Certificate Authority 2018	38623F7C7714C6AA4424574A882945AE	403F7ACC71E20ABE1E5499BDD979DE9FC8B56630A4F46C4393D657171B368C29	2/27/2018	2/27/2043
Microsoft TPM Root Certificate Authority 2014	5DB6304E0CBF27BF49B8C869501E5DCB	870C7A35CEAB3D59979F2C6A524042D404CB71518004350925FB2CED79A999DA	12/10/2014	12/10/2039
Microsoft ECC Devices Root Certificate Authority 2017	2ACF722BD9145EA94C541F9F485D5432	4C25971E3BDDE59D178F7A5EF62561E9E88EDD93C274DDAA522840CD4B4B517E	11/9/2017	11/9/2042
Microsoft Overlake Root Certificate Authority 2019	685BBE25C463E7A546C78607FDFD5516	5400B611F6B21D90208219217D58040EF6D905357DE3D6FC270C42B62753ABD1	9/6/2019	9/6/2044
Microsoft Development Root Certificate Authority 2014	078F0A9D03DF119E434E4FEC1BF0235A	41668293CBB726868D5B6AD4B4EB8DC125C944B48F848DF736AF37E43007E26F	5/28/2014	5/28/2039

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
ESRP0 RSA PCA 2017	3300000002573 25634AFF9C7B0 0000000000002	DF63D390A4D82A96EA 6B75796E51F75554C3 DC2ED0BCE198EEC2B3 1E131F0B08	8/2/2017	8/2/2032
ESRP2 RSA PCA 2017	33000000033E0 7CB8A6D5C05F 0000000000003	2DDA32F6128A2837D2 D999E8F8C0513BD4D4 A9445EDBC50A4B392E ED94762950	8/2/2017	8/2/2032
Microsoft Corporation Third Party Marketplace PCA	61362CA700000 0000002	B17E8201B128E1E74C C023510AB7EA03AC27 DDE50D32D810EA1577 758F1CC098	10/8/2010	10/8/2034
Microsoft Surface XLFF 2 Firmware CA 2016	3300000018751 39CAF51EBEE1 8000000000018	1D7CE201712FCC2A0C 00DE8FA6EBB3A509F3 0D4C70FED88EE332D7 E2042C3822	5/9/2016	5/9/2031
Microsoft Surface Hub Firmware CA 2015	330000000C2D B0C4D8944802 B100000000000 C	809BC34F80154EB3F91 4D946C2C88E71954E8 6B021438E51AF79BFE6 847F60B3	2/16/2015	2/16/2030
Microsoft Surface NFF Firmware Debug CA 2015	3300000014CFB 96102AAC57EA 3000000000014	A7B31AC9D96CD8D3A6 80F6CB7854FB2365BE 33B6986188F148DFDB 3BCF55F8E5	12/16/2015	12/16/2030
Microsoft Corporation KEK CA 2011	610AD18800000 0000003	A1117F516A32CEFCBA 3F2D1ACE10A87972FD 6BBE8FE0D0B996E09E 65D802A503	6/24/2011	6/24/2026
Microsoft Windows UEFI Key Exchange Key	3300000024BA9 3709D65A0F294 0000000000024	7C3EC41EC603D19F84 957105818005E46517A 79D5E17FFEB39CBC40 3BA7CEE4B	12/15/2020	12/2/2021
Microsoft Windows UEFI Key Exchange Key	33000000238BA D7F19EABBB91 7000000000023	88FA75344477E9372C1 442E71EB2540BE2AF7 C9211C00FF848079E92 C753179C	12/15/2020	12/2/2021
Microsoft Windows UEFI Key Exchange Key	3300000022BA6 F4E9475565449 0000000000022	A20607D78C0D615132 A8B4B87A99FC982A9B FC4EACCA2045FF2F28 71CF9DFC85	12/15/2020	12/2/2021
Microsoft Corporation UEFI CA 2011	6108D3C400000 0000004	48E99B991F57FC52F76 149599BFF0A58C47154 229B9F8D603AC40D35 00248507	6/27/2011	6/27/2026

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface Services for Windows 8 Pro CA 2012	3300000007927 FE45A86B07D8 6000000000007	1B1837D51CDC79D862 8161C6D8040579BDFD A4780BBECFDE2108F2 1AA806AB28	8/2/2012	8/2/2027
Microsoft Surface for Windows 8 Pro Firmware CA 2012	33000000044E1 0BB8D09BB1DD 5000000000004	22E643EA81C5B728837 59EF47A7D22EF25DBC 76AE7DA79878D80F2B 97BD4C495	11/8/2012	8/2/2027
Microsoft Surface for Windows 8 Pro v2 UEFI PK CA 2013	33000000074E8 B0FF49EA3BA9 5000000000007	D9AF98FBF7E1F9FCC8 21DF455124BAE937F8 6A38BE295F0D57F4AB 06F63FA70F	5/7/2013	8/2/2027
Microsoft Surface for Windows 8 Pro CA 2012	3300000003639 37A458A670079 0000000000003	536D41C869EE81B13B 0C6962D321589FDF1E 8BBFA136E909804A76 B277FB3DD7	8/2/2012	8/2/2027
Microsoft Surface for Windows 8 Pro v2 Firmware CA 2013	33000000060F6 0FC158295BA49 0000000000006	08F7F1C4280BC9B81E 9724F5322B5F6B7FD09 58D63C51245DE05AE5 900B6AEB1	5/7/2013	8/2/2027
Microsoft Surface MFF Firmware CA 2014	330000000CD94 D05EAA2313BA 100000000000C	96994BC15B94C9F109 EDA945CE61459AD709 81861ABD1977094EB6 FE2CAE3C27	4/9/2014	8/2/2027
Microsoft Surface XLFF Firmware CA 2014	33000000010E96 B8AF18EA1B89 5000000000010	6488E92A224E9BE241 CD4552A09A55CF2646 5A74505297CDD5FF5 72D302D001	12/10/2014	8/2/2027
Microsoft Surface MFF UEFI PK CA 2014	330000000D978 176E0E46CBC0 200000000000D	98713AAE611EFDD08E CD96ADA94FF8333AF6 4574FA4CBE5B25E418 27344484AB	4/9/2014	8/2/2027
Microsoft Surface LFF 2 Firmware CA 2014	330000000E6B6 D4BC71139B9D A00000000000E	F8DC2B715BD57C5CC4 1D63760EC6A9FFAFF5 B862325C698F29B866 C3716401BA	8/20/2014	8/2/2027
Microsoft Surface AFF UEFI PK CA 2015	33000000013BD6 CE0416871E107 0000000000013	183EA80013A2BA4B9C 5B0CD9F708AAA2E853 B01CA3A08EC37B7CD8 36578E1180	3/4/2015	8/2/2027
Microsoft Surface AFF Firmware Debug CA 2015	33000000015DAE 27AFAF84F3BD 5000000000015	C5B73665373A61086C 776C8FC65B258D29C4 9B94B22BFA950675373 673602E0A	1/6/2016	8/2/2027

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface AFF Firmware CA 2015	33000000129B7E6E4473C52E5D000000000012	E77C802A480BE0357C079721FF560A79A8579AA76D3718BB65B7B604984268EC	3/4/2015	8/2/2027
Microsoft Surface LFF 2 UEFI PK CA 2014	330000000F164E6168C323F0C700000000000F	FA4BF3F3B46A042C35920800F7A1EE10FC5243497B82A560CB50821D42DFD2BF	8/20/2014	8/2/2027
Microsoft Surface LFF Firmware CA 2014	330000000AB3DD75AFA617B49600000000000A	50B0AC6DCBB7A58719994C32C763B71A895C71C9C705F2DA7552CC6409789A32	1/29/2014	8/2/2027
Microsoft Surface XLFF UEFI PK CA 2014	33000000113FA8B680B9432BC0000000000011	501860B3AEBEF526E804F30905BC773A32AC39EA8FB4AF446BB2B998DED9560A	12/10/2014	8/2/2027
Microsoft Surface LFF UEFI PK CA 2014	330000000BC06653149DB57ABD000000000000B	12617FB5044929854EE299E9398C0566D4DE169B82C18312D675345EE74B8F	1/29/2014	8/2/2027
Windows Phone KEK CA 2012	3300000005A0850232300089DB0000000000005	87B3C9F7E4C519581E0AD87F38E65D78C31C64568347F6C2F106B23E909DD87F	7/6/2012	7/6/2027
Microsoft Surface Services for Windows RT CA 2012	330000000692D3A9E2B66D44D50000000000006	E43F4CE85ABDD8E41C0677935DEB60D0EF8F106C82339A450D6C99C67BF3371	7/18/2012	7/18/2027
Microsoft Surface for Windows RT CA 2012	3300000003E1454F72BA89F3510000000000003	4245D5684381CB28EE9208AB6B843AAEB8A26C5027411086C3C39DD7D0F3E52B	7/18/2012	7/18/2027
Microsoft Surface for RT Firmware CA 2012	3300000008BC3A03FE46CFB75F0000000000008	9B29EF1744163306931F8417588F9C2E9DC206CEDC7EA48AA24CC6D16BB192A3	8/17/2012	7/18/2027
Microsoft Surface with Windows RT v2 Services Mobile CA 2013	330000000E373D40FB2528F4C8000000000000E	0103D60A79694F040F90C1D326E5054216A5EACD9F59D988591C87735DFD70DE	4/24/2013	7/18/2027
Microsoft Surface SFF Platform Key CA 2013	3300000012E9C50E4DEA0548B10000000000012	E3A2FB3C55A8B41E3AE415B6725A1BF8F874AFB02E846B2B2F21F75EB6636854	6/5/2013	7/18/2027

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface with Windows RT v2 Platform Key CA 2013	330000000CF99C723A5F63E02700000000000C	F84BD4AA351FD7F76FC16A4822C371F4F01487CD255619299CFFCB6C93DE1F13	4/24/2013	7/18/2027
Microsoft Surface with Windows RT v2 Firmware CA 2013	330000000D1A1BE0D44280071200000000000D	2A3AA801885B9C5000EF39DA51BAAB773C5DD90216C4F422B4BDEC578B20D0DE	4/24/2013	7/18/2027
Microsoft Surface with Windows RT v2 Boot ROM Fuse CA 2013	330000000B00B0341890985EC000000000000B	65296AFAC4FC9C25968F1EFC246AFA13F99B47B08EC5A80A92D81A06A5321FE3	4/2/2013	7/18/2027
Microsoft Surface SFF Firmware CA 2013	33000000139CD5B42766AB738B000000000013	BAF41DF93531F48976A2A5B581A728C34BAE8ABE270B5C9F3D99D32DBD0ED4A1	6/5/2013	7/18/2027
Microsoft HoloLens Firmware Debug CA 2018	330000002C63CA4B934C5FB83F00000000002C	8908A17FE5FD7CDEAE4891867995074538B9A3CB180BB4C1011221AE3F8B172E	5/15/2018	5/15/2033
Microsoft Pinewood Attestation PCA 2019	330000002F2F99DC578769311C00000000002F	E1A2DB7A816B59E83F7001643464C27AC44FEE1E4B2BE0236BA6116F586B0BE4	1/3/2019	1/3/2034
Microsoft Pinewood Attestation CA 2019	33000000037AD96B0EF95A3C98000000000003	F9A3780BCEE9DC65130612AD348756A07EE1AC6CCCD056CFFA30BDC17EAE599C	1/9/2019	1/3/2034
Microsoft Andromeda Attestation PCA 2017	3300000021DED C9928B9CFCCD5000000000021	34046EF5E08C14E01BE8883BFBE0E5C31A8E407B5B3B98C88F8A86C8D98C1235	11/1/2017	11/1/2032
Microsoft Andromeda Attestation CA 2017	330000000581EACDD9379FA7CD000100000005	483FA02B01171CF63DF9B6E1E586F3B0A8278526E7E8E91F6653F7A5243C599F	11/1/2017	11/1/2032
Microsoft Surface NFF Firmware CA 2015	330000001228194D3339AF04D3000000000012	B60898040C5C697CBD9F9AA838E02BB1EF28C6834A76EC1EEF67A89599E2E799	11/5/2015	11/5/2030
Microsoft Surface Common Services CA 2014	330000000BAAAB1126756134AA00000000000B	6A43F586AA13D87F78E3826B0325D5CB2E12F5B6CB2226691E8A05F13CD639FE	7/23/2014	7/23/2029



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface MoBB-1 Boot Core CA 2019	3300000004DD C86C5F43A1F0 DD000000000000 4	42EB0F72E199E88A9A 5F5339D3F411856BEC 2FF48D778A60CAB2AD 9CD17401BB	3/6/2019	7/23/2029
Microsoft Surface MoBB-1 CA 2014	330000000392D E0AF30239302F 0000000000003	1787A4FD58AF3D2195 CDC239569AE0B30E59 54D071EEB7CB08EE7D 9A64302FE2	10/8/2014	7/23/2029
Microsoft Surface FFF Firmware CA 2018	330000002DCE5 4926C882808A6 000000000002D	C721EF9F0C61D94C7C 1DA07D11AB14BA32CC 06247C5FF65559804EC 91E7E4A63	11/6/2018	11/6/2033
Microsoft Band Firmware CA 2015	3300000015DFE A689D327BD13 D0000000000015	D1C7F14C7EE6878CB9 CC6D5E92F90B1B3082 AA682BFE9754DDC5AF AAE8357D2	12/22/2015	12/22/2030
Microsoft SH2 Firmware Debug CA 2018	3300000025924 954A84A84C1E 80000000000025	B83388988464019C52C 5DF5B97C0EAB871738 A59BCCC4F8B03436C6 002F3EFB8	1/12/2018	1/12/2033
Microsoft HoloLens Attestation PCA 2018	330000002B4D5 E20F9706A55A C000000000002B	34EBDCFAD4C02C3FF2 3A18B14A84E9D17773 DD29EBAA85FF576903 2C2EE11760	5/15/2018	5/15/2033
Microsoft HoloLens Attestation CA 2018	3300000003313 F0C58D5AFAC9 E0000000000003	2233451158575160E97 054D2F50B437F6F045C 316258BDCC8E14150B C46722FC	6/6/2018	5/15/2033
Microsoft Devices OEM Code Sign CA 2018	3300000027AD C53F55D9A26B 74000000000002 7	4C12C4560AB4366838 AA2412F1F5741C0C02 972A99D1F82060E99A 02AC246EC9	4/19/2018	4/19/2033
Microsoft Surface Hub UEFI PK CA 2015	330000000D47C BF788003F3523 000000000000D	C9088BEAFD93D4FDF2 3502F7A942CE4A7960 9D236BAA9F4537E546 AE44A5274B	2/16/2015	2/16/2030
Microsoft Windows IoT KEK CA 2015	330000000FB44 6B92066425522 000000000000F	CF74CD44C2BB5EF558 36290AE926C660F884B F11C342E09342264633 80BF2468	2/26/2015	2/26/2030
Microsoft Band Firmware Debug CA 2016	3300000017301 79BF76B593DE3 0000000000017	4F600A946C1345CEBC 2A6BBF84B0F6990E2D D59E13596C35143ADA 6BF312B927	3/30/2016	3/30/2031

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Windows IoT PCA 2015	3300000010A167B918D0BD921F000000000010	974D20E4D194D5E1BC0BC7D85513C661C8B88807F4113CE2FCD0D14E8906C68D	2/26/2015	2/26/2030
Microsoft Windows Group Edition KEK CA 2015	330000000EBE42C98EB4B4013000000000000E	562068F4667DD2008772C131C5D40082E7B7379DE55DF47AB5732AB99E67AAEF	2/16/2015	2/16/2030
Microsoft OEM Custom CA 2014	330000000A2D822051E6A15E1600000000000A	B6181AB8E72E555556CB356AB7BCCB422BE87670085B0DC5C00C92986F414114	4/3/2014	4/3/2029
Microsoft Surface XSFF UEFI PK CA 2018	330000002A3C56C6CA26CCEF1000000000002A	886D1FF04EE498C7A51F513A2103DA7380DF2546FE5B40476A2A06136AD4DD75	4/25/2018	4/25/2033
Microsoft Surface Accessories Windows Firmware CA 2013	3300000008AFB24A1F91A4F7C3000000000008	555F969D2A362EB3E9CD48A269FAD9C366CC57971539020304574F2E3B17FE05	4/2/2013	4/2/2028
Microsoft Surface XSFF Firmware CA 2018	33000000285A1203D634851A330000000000028	544BA6F7DF5640A86238C760DAC327FA90861FFA0C62F830021D438DF3D6D2F7	4/25/2018	4/25/2033
Microsoft Atlas Attestation PCA 2020	330000003129D45F63446426430000000000031	87D60B58A4F2CF65954BC39D58872CF5DC84ADCFB25CB97607FA94B7CB5569A	12/15/2020	12/15/2030
Microsoft Atlas Attestation CA 2020	330000000344AF084C8E1FDC8B0000000000003	468D949FE30207A1E11842F2579F152907BC3F872AC8C0231963C847E38B8BE4	12/15/2020	12/15/2030
Microsoft Andromeda Firmware Debug CA 2017	33000000230D1B7A2B5554C5560000000000023	12AA98347AC4200D4C58284E3C5DE1E6043057A31A04019739324DEFDB833CF7	11/22/2017	11/22/2032
Microsoft SH2 Firmware CA 2018	3300000024BAE44CB77FD644570000000000024	F63633F3CECEE5002F980288C2CEDA6936D5CCA85A22B400682EA0D005FEE126	1/12/2018	1/12/2033
Microsoft Surface LFF 3 UEFI PK CA 2016	330000001D3FD706A8820A7C9E000000000001D	6E650A4C48F99AD47CFE63A078909EA46618D55A35C500B919D0CBA37399B1B1	5/18/2016	5/18/2031

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface LFF 3 Firmware Debug CA 2016	330000001C034 EED30C7B52EB B00000000001C	69DFBB22FEB8BDEE49 0AC203D23430CE6DCF 70D32F975084BBFF5A A4B49BEF3A	5/18/2016	5/18/2031
Microsoft Universal Store OnePay PCA 2015	3300000011395 17E323D1D1FD 6000000000011	75AD0DC59DE9993BE5 A64B03748E5F5CD309 E89C6E6F153E25E2BA 202F21D360	9/8/2015	9/8/2030
Microsoft Windows UEFI PK CA 2017	3300000022307 F7D1D44F82D8 1000000000022	C209C7DA8FE8AB2B16 BE32CB43CBE8F8D158 FF572C943A9A6703E0 12B180DBFE	11/22/2017	11/22/2032
Microsoft Andromeda Attestation PCA 2017	330000002087C 3FB3C3A26853 D000000000020	263E224894E76810D8A DBF53921BA1867324A 7D79FCD36AF09AC187 F64A762FC	9/21/2017	9/21/2032
Microsoft Andromeda Attestation CA 2017	3300000003A06 50B82B7E8DF60 0000000000003	358F6EF64AE7DF8E679 9D2792A113E8E8EFB E526E16098E7BFE2A8 CC86DD6F9	9/26/2017	9/21/2032
Microsoft Surface FFF Firmware Debug CA 2018	330000002E9F3 1E1CD04FCD3F E00000000002E	F265325A8840D2C9F3 2EF52F757AA56B27AB 83F23D63D467BA19BC 4F070392E8	11/6/2018	11/6/2033
Linux Boot Loader Signing CA 2016	330000001E1CC 39541B37C539A 000000000001E	1289B875E55A0BB0159 7BE51C9ED95A3970F0 0D6861840094242932E 02FCB901	9/29/2016	9/29/2031
Linux Shielded VM Secure Boot	3300000011C5C EBE5B7867E20A 0000000000011	67A811118B4F00FC610 8FB30C506A2DE70FE2 610ACD3538D300FD80 5B76A49C1	12/15/2020	12/2/2021
Linux Shielded VM Secure Boot	3300000013A8A C2C3E77AB629 B000000000013	72BF2AE88CF9136C26 5A6B3FA8FA73D3AECF 0679637CEB836A7222 BE1EB70AA2	12/15/2020	12/2/2021
Linux Shielded VM Secure Boot	33000000124CA 9BD51DC17096 0000000000012	C6E8B531250DA2D93F C30B5D78850B9CFCB1 F96D1200EB7F4473985 AF5D222EA	12/15/2020	12/2/2021
Microsoft Surface XLFF 2 UEFI PK CA 2016	330000001AB95 5D27398F6A375 000000000001A	4C7002E4A3C4D3F0F9 E8CC141BDC4257BA3A 73237FE13B6D433031F 524B13153	5/9/2016	5/9/2031

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface XSF Firmware Debug CA 2018	3300000029328 345547DA23286 0000000000029	264318C3E0125AA16C 7F49BBBBBA2344076CD 680F3FDDE32ECF1DAE AFA0E5C0E4	4/25/2018	4/25/2033
Microsoft XCloud PCA 2018	330000002693B 815696A1FAAE 5000000000026	5370A2CD4C54A81031 680E35E8FC8925B2709 425F7F08F4FD63E0CE7 43AB178A	1/25/2018	1/25/2033
Microsoft Surface XLFF 2 Firmware Debug CA 2016	3300000019E5A 1581427E0E8D8 0000000000019	36FF80BCC75DF08022 D70BC9FB322D421767 61A0ABF6AC8E7C1FFF 848DA60F79	5/9/2016	5/9/2031
Microsoft Surface LFF 3 Firmware CA 2016	330000001BE78 BAE24E4EC1B2 500000000001B	79EC0FD85704624EA0 2EC27ED3973F0DDA05 B588082EA3C4A8F35C 81DC080328	5/18/2016	5/18/2031
Microsoft Surface Ganymede Attestation PCA 2017	330000001F7B0 4B19C6C25F799 000000000001F	706CC20D94950D1E8D AAD69DFBAAF02ECB22 855C1045CC3FAE617D 6FF02B74A1	3/31/2017	3/31/2032
Microsoft Surface Ganymede Attestation CA 2017	330000000327C C35582D908633 0000000000003	958C57AB822F88771E D4ADDEB0B8AF3E9A3A 37DBF6C81E663D1380 AF94242320	4/11/2017	3/31/2032
Microsoft Surface Services for Windows RT CA 2012	330000000987D 5C8FDC251171 B000000000009	5F51A43F39F6D151BE 718DC8456464ADE11F 4D4C33B610AD9EDEC5 2D4BFF528B	6/17/2013	6/17/2028
Microsoft Surface for Windows RT EK Issuing CA 01	33000000197E1 46A8ADA95EB1 D000100000019	B0E3B48CC492EED111 CC6C291F4F205BE310 1FD9555F99B189FF855 BB98A75B5	8/8/2013	5/8/2028
Microsoft Surface for Windows RT EK Issuing CA 03	330000001B133 8A824B422CCB 300010000001B	E7CCB9BAA24B83CEDE 6CB9D9AF1B2567082C AF43CC54B4D20BE97A BB26D8C2B6	8/8/2013	5/8/2028
Microsoft Surface for Windows RT EK Issuing CA 02	330000001AE3E A706DB5CB5AC 100010000001A	D7E09399BFA92E8400 0F299FA3597AC4823D D9C5319C37A6B680E6 2ACE4E07D6	8/8/2013	5/8/2028
Microsoft Surface SFF Attestation CA 2013	3300000021FE4 8D750C465F687 0001000000021	334700F29B2F542AFEA 04E80F0D4D24BF3A54 98E087F25F4F3012E74 EFC45AE4	12/20/2013	6/17/2028

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface for Windows RT EK Issuing CA 04	330000001CA12C7F2A025C770100010000001C	19DF338B05462BE48F4ABC385A7DFBFE10677A6E7C78AF18FA05F4C3EA4C2717	8/8/2013	5/8/2028
Microsoft Surface NFF UEFI PK CA 2015	330000001350615E2400CEC67C000000000013	5BA637CB3BCD37501F2EACDF6C0666B729139A64A202CE275308ED22870C65EA	11/5/2015	11/5/2030
Microsoft Devices UEFI CA 2016	3300000016C4B1C7A92B57BE09000000000016	E30D58A85CCEDE5A4A419EEFABD8B629948BCB0E6BE19637C5911ADE9FE6BE00	2/11/2016	2/11/2031
Microsoft Atlas Firmware Debug CA 2020	330000003033FAD173E56FC6FF0000000000030	65142EDADA234E3FF6DF875C5D2084F975DD18A464164BDF76579A4C9EB04200	12/15/2020	12/15/2030
Microsoft Codename 4x4 PCA 2017	330000000F527BDA1E9F756A0A00000000000F	ED12D01C4F7BCC3651E62FCE0603BABBF4DC52596423CACF02372139F3124FFC	9/12/2017	9/12/2037
Universal Store PCE ECC PCA 2015	3300000006D141128DBB8485AC0000000000006	4337269B71342348BAAB55BCF518292913F26EF5EFC1F33DD65DFB08567B8464	10/7/2015	10/7/2030
Universal Store Onestore ECC PCA 2015	330000000A7E8C9D7C69A42E9D000000000000A	65FFCC0A0472816C9ED759FAB092F4CEC7241E06D08068DB4FC079562EC090F0	1/26/2016	1/26/2031
Universal Store Prod ECC PCA 2015	33000000059B24470A49B341B60000000000005	CF3C954F7BFF4FB928CFAEF06C0C79A79C9C3936760D13836433DA865997F223	9/1/2015	9/1/2030
Microsoft Central Access Authentication ECC PCA 2015	330000000214CEA8FE7ABEF03000000000002	6047A0D1A5AE7402945E17E75403DA7C44F953759154E64177F87C4D232BA017	6/23/2015	6/23/2030
Universal Store PCE ECC PCA 2015	3300000007A7DA1675D2ED14DB0000000000007	BEE1DB74C3DC4CE1594AE2C98748C3D215C67808C230AA54AC3D59BC5C85ED01	1/20/2016	1/20/2031
Universal Store Onestore ECC PCA 2015	330000000476F3C5B9E4816CE8000000000004	9DA92134CBC836AF09A523E3B4FD45C1B4D0A1FBD695B74D5137ED52921C7493	9/1/2015	9/1/2030

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Code Name 4x4 PCA 2017	330000000E101 FBD50A28B351 B00000000000E	5248DA95516914D4A1 DAFE2AAC49FA53212E 95421B7BFF0A8071810 75A8F971F	9/6/2017	9/6/2032
343 Industries Section 3 Production CA 2017	330000000C474 E07B9ADD17E8 100000000000C	F3BE668072D34F2D8A EA92AF677262A93392 7CFF95B829D14455188 5E1416120	5/16/2017	5/16/2032
Universal Store Non-Prod ECC PCA 2015	330000000335F 3DAC6C45EA71 5000000000003	7A4F009D3AA1E15DBD C2F27DB33E861A2F85 200FF944C1804501D07 0FF84A9B8	9/1/2015	9/1/2030
343 Industries Section 3 Test CA 2017	330000000D2F4 10C98729E7DD 700000000000D	0A3530FE9AD35CD73C FE255AC70EAF40892A DD08BB97998490CAEB 1AC9B70062	5/16/2017	5/16/2032
Universal Store Prod ECC PCA 2015	330000000B5CB 947ACD6722E5 B00000000000B	614AB7FFB13680E467 D0A045C7A3E2D2990A 2D31C9D0FFD681DA70 96A181F815	1/26/2016	1/26/2031
Universal Store Non-Prod ECC PCA 2015	33000000098C9 5000F61325203 0000000000009	95DAF6296A110D0A17 041D04F76637F13B106 BC93297008EF6CBF57 6EB630271	1/26/2016	1/26/2031
Microsoft Central Access Authentication ECC PCA 2015	3300000008A81 865023E3855B8 0000000000008	A16729B3A5E053E3D0 D882B77D3056B4C1F3 5D6F25ABD691AF4EB0 2F8EFE9DA2	1/26/2016	1/26/2031
Microsoft ECC TS Root Certificate Authority 2018	3300000014984 3474594317849 0000000000014	D4D27BC233F38B4414 617E72871F54D40758A B988072D9FFEC31AED A60ECC6D0	9/28/2018	6/9/2035
Microsoft RSD Software Ring 0 CA 2018	3300000044589 1DC8AC86B1AF E0000000000044	7473ED968DF2C2B094 FFA30F0A20A570A2B4 336D0222C27F1245D2 C455DB6323	3/14/2018	3/14/2033
Microsoft Office Service Infrastructure Issuing CA 2011	6107A14E00000 000000B	8D4A3715E616B63369 C9B1187240413248F00 B452464B5E63AD3CC8 CCCB502E0	7/13/2011	7/13/2026
Microsoft KMS CA 2011	610F0E5E00000 0000004	AA0D15514BDD3D4773 26D81095E9D193C2EB 5464E9D273B4C6FDF4 DCC32D7CE0	5/13/2011	5/13/2026

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Office Service Infrastructure TIP PR Issuing CA 2011	610C127400000000006	31999F6A276A58F067335540DBC892CF0342E53C9E00C06E7C5411CA0AF7D5C7	5/18/2011	5/18/2026
Microsoft Office Service Infrastructure Partner CA 2012	3300000022C628912ED8B85895000000000022	DF403466D46C5BF80F18D1D87B1AD3B08C697847D8FDB3A3F7993B63EABEB3D6	10/30/2012	10/30/2027
Microsoft Office Service Infrastructure China Issuing CA 2012	330000000399D180E011A0E921000000000003	836375F4E806CEC201847E800775DF8623138B7E53CF5DA331B89886CA309D7B	11/7/2012	11/7/2022
Microsoft Office Service Infrastructure China TIP Issuing CA2012	33000000056F56CEB0D9743A20000000000005	BD759C39DF5CA3954A6D007075B9F8A5168D4C090CF2FCE27E45AC045DCFE6EF	11/7/2012	11/7/2022
Microsoft KMS Issuing CA 2011	610723D100000000007	3B47914002579950DEF516682A41ABF116A2458EA58250FFBED9332FBCB19AB3	5/24/2011	5/24/2026
Microsoft Office Service Infrastructure TIP Issuing CA 2011	6107A1AC0000000000C	99FEC19B8ACBFF4FFA6B2601DF39AD51D4684A21EB745A80FF10A2784848C0FA	7/13/2011	7/13/2026
Microsoft Office Service Infrastructure PR Issuing CA	6109CDC400000000005	E6F520FF3585577DEF6A1BB0BCB645518692908ED622850D9554F48CBEB554C1	5/17/2011	5/17/2026
Microsoft Office Service Infrastructure INT Issuing CA 2011	610B53E700000000008	9DA2F35BD5CB1A083D022DCDE65FC3C1106236277BD66EA10D2F04007DBCAE7B	5/27/2011	5/27/2026
Microsoft Office Service Infrastructure TIP INT Issuing CA	610DB5A400000000009	F92B7C9AFD91C57208F1F9D3DF98EA1920DA7796814B6460FC1210F4AB785567	6/1/2011	6/1/2026
Microsoft Exchange Services CA 2015	3300000025C04F3F6B97FB521B000000000025	2E5661B50E76147999499DBD75B5C9B67201E9128AACA05BFA3AAFE D6953C98C	6/16/2015	6/16/2030
Microsoft RSD Software CA 2016	330000003003158856E6B0689E000000000030	16DEB97064EEF93F485A92CADD5A3163655AB7C0C87A1ABFE79C88BF0E5686AD	12/6/2016	12/6/2031

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
CloudBuild Source Cache High Trust Intermediate CA 2016	330000002F95E065F6BCDBAEFD00000000002F	D36303241ACBC33D786E6385C2831BA33E9B68CC27A86822F69BF9BBD14114D2	12/6/2016	12/6/2031
Windows Internal Build Tools PCA 2020	33000000565AB569CB1D94682C000000000056	5B20334FE6B3F360F02E7B197D32656D1235353DC04BA19FA2619781EF59F715	2/5/2020	2/5/2035
CloudBuild Source Cache AP Classic Intermediate CA 2016	330000002E7033AEA71F678E3800000000002E	9DCC938B003601896DD6EBDA18887E3C3E77B5C679CA56DF492DEE95E90CA850	12/6/2016	12/6/2031
Microsoft Services Federal PCA 1	610C3A8D000000000002	4302542F996AF96870E27C0F1787703ABA63C949D0F700B80118734F55CF7807	8/12/2010	8/12/2025
Poseidon Accessory Authentication PCA 2013	33000000021D213BB8042638B4000000000002	6F3B4AF8B38269075D72C11CA35953753889A1D1010A1E12EA3AEF666F81C0EF	3/8/2013	3/8/2033
Xbox Services RSA PCA 2013	33000000047E685B34D4E184F1000000000004	9006DF0A538943D8E3997AD0E554D112DFC4F7DB05B6590D806694966E32DC15	4/16/2013	4/16/2033
Xbox Services RSA PCA 2013	3300000006DA A12FDC2B9379270000000000006	7D0BA2C9FF2747A63F6667ECB32B2EE8B85657E68E3B51EE539663A9C5877CD8	7/8/2013	7/8/2033
Universal Store PROD RSA PCA 2017	330000000AE782155117F8352500000000000A	EBF08C5CBDFAB006BFE6B3F51C4FB8CF2A93B8FDB62BCB9F32C34E0286105F79	6/1/2017	6/1/2032
Xbox Services RSA PCA 2013	3300000005E80EF8B44765E63D0000000000005	418DE5CFEA76E704D8CE5AC3E226E3C0CCE8D96452833825EA52DB9276E1C924	5/16/2013	5/16/2033
Universal Store PCE RSA PCA 2016	3300000008CFE243AE15526C5B0000000000008	EACF321B7E6ABF4B2ED36999F3F07AF2A16D01CB5149EB40C96FAEDACC9612F8	6/1/2016	6/1/2031
Universal Store Central Access Authentication RSA PCA 2016	33000000090303CDD2013EF470000000000009	BC9C02801930C9D0DDC443FE95B595A395213F9FC6F619D1054C02A35105FA28	6/1/2016	6/1/2031

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Triton Accessory Authentication PCA 2013	33000000038D6 BA4128F30E8D A0000000000003	7CA5FC48BFB9767FAC 95F393A271BFE2449D 59A9D965837D50FF15 AD46781793	3/19/2013	3/19/2033
Microsoft VSMC PCA 2017	33000000091DB A0349F054D5D 3000000000009	895FBD56AE079ED9FA B177432D298C0575A0 4B920E6DCAFD1B1121 63180EE538	9/26/2017	9/26/2032
Microsoft Mobile PCA 2015	3300000005D0D B2EAF11D1C5 4000000000005	142D730CDA05127248 C73E00B6CC1B75C344 532F505E20DF42AAAB B7B9EDEB7E	9/8/2015	9/8/2030
Lumia Labeling CA	3300000002714 B8C831249C25F 0000000000002	E5A067B80331CC1921 E959E0D3577AAACDD6 023C5976A4463160216 1929E521B	1/28/2015	1/28/2030
Phones UEFI CA 2016	3300000008115 D0C8102B6B07 4000000000008	DC127501A5470A4EB5 6B29940E08B04FE2585 95EB42CC7087D7738F 5E50352BA	3/30/2016	3/30/2031
J2ME Manufacturer Domain CA 2015	33000000062C2 69B982C16386F 0000000000006	C5C202F5C36DA60018 5EC9065D25450932C4 1C1EC6BD40B9E24A1C C3ED13F201	9/10/2015	9/10/2030
Lumia Labeling CA	3300000004297 88A54CD510EE 2000000000004	36FFEEE9AC26B7F3EC C154B65350A565FADA 370E6BFCDD53AEBD29 40A96301A0	2/4/2015	2/4/2030
J2ME Trusted Third Party Domain CA 2015	33000000070A5 16A24D7EEBC5 F000000000007	E8759CED3BA0520502 896809571B5AE8DB98 1CBE5EF27D7A78F8C0 4F81D859E1	9/10/2015	9/10/2030
Microsoft Overlake Celestial Peak EOC CA 01	330000000C646 6E90249277395 000000000000C	47A97C9899659DD6FC 5CDDA5F910C00C5C80 FAB0813388E88ABA71 757F748FE7	12/19/2019	12/19/2031
Microsoft IoT Hardware AOC CA 01	330000000F62B 9C2A0DA9651D 600000000000F	50E68DF1565FAC8C29 C9B5B99F6F674EE65FE 06B12C19EC49BB2114 AA6CF07FC	7/23/2020	7/23/2032
Microsoft IoT Hardware EOC CA 02	330000001265D 5505F21157B5A 0000000000012	3A1AB5E1682341C0C1 149F420F7C6DBB811D FB7A12ED760BB85122 4202E60052	7/23/2020	7/23/2032

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft IoT Hardware EOC CA 01	3300000011431 52E2213235FA8 000000000011	E862464637686C70F51 D78506FA970D6C85A9 DDEA822C5F320B04CE E2F782E31	7/23/2020	7/23/2032
Microsoft Overlake Celestial Peak AOC CA 01	330000000D69F 5D191E9E1D0B A00000000000D	61CCD5572CE0C9C5A5 B7BE0837B1B5EAC3BD 5AE79874A38BDFB796 AD8E45B96D	1/17/2020	1/17/2032
Microsoft Corsica EOC CA 02	3300000009CE3 55CE9A935E6B D000000000009	387B537E349787D3C0 C11D2DEF2AF8942FB5 20A473D6099AB97A8B A1CA2777C7	11/13/2019	11/13/2031
Microsoft Overlake Celestial Peak EOC CA 02	330000000B5FF A766BAB0A077 100000000000B	ECCB8003956FCD3248 E66132CBD0153FB5DF 0EA1FEE10991F0E6549 B5EC17A6E	12/19/2019	12/19/2031
Microsoft Cerberus AOC CA 01	330000000440D B5FB05066B53 D000000000004	E50EA06004720D39C9 B9DA993546FAE0755D B7C5ED8DA18B8F5CD3 A9F6542AEA	11/13/2019	11/13/2031
Microsoft Corsica EOC CA 01	33000000078CF DEF60A7D1AA3 3000000000007	10D7FFFC33013B74BA FAF8A02847909F6D14 4F643AF3B135D0974D 9A09FA5ACD	11/13/2019	11/13/2031
Microsoft Corsica AOC CA 02	3300000005E09 B35452D0997B B000000000005	2C4BD0808A66F2AB90 8C151AD5824FAB37C7 3E77997397F54AFB69B 706CF7D27	11/13/2019	11/13/2031
Microsoft Corsica AOC CA 01	3300000003CFA 8F2C9B7EE147 D000000000003	74B885A77CC6402EFB A497588160AC17E148 010EBDB1866AAF5418 C920E724FA	11/13/2019	11/13/2031
Microsoft Cerberus EOC CA 01	330000000871E D9045C7F74E9E 0000000000008	B610E3630261CBF06A E85E2F2F6A28ADA804 65BED23F31EEEA6876 6D7216B2A0	11/13/2019	11/13/2031
Microsoft Overlake Celestial Peak AOC CA 02	330000000E851 6EB57875BC61 C00000000000E	854BEEC86E41081F3B5 CB06FAD9E64BAE5DB0 B58E9AD906AF7B5BD7 D3B53737E	1/17/2020	1/17/2032
Microsoft IoT Hardware AOC CA 02	3300000010824 961ABA2C0FC1 E000000000010	BAB009727481D5A102 A0F9D92AFBE35A154B 3542CA2373142EA8B3 91D26FD964	7/23/2020	7/23/2032

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Cerberus AOC CA 02	3300000006F64 DA3EB7F568FA 8000000000006	62611B1020D98788619 21646DE463AFFDA7D1 CE9DDFD950D04FDC59 3A58CC656	11/13/2019	11/13/2031
Microsoft Cerberus EOC CA 02	330000000A5C6 53934684C0B82 000000000000A	8AFE1152EB160B6001 A38FAB330F7C692068 F87A521AD3D81ED827 5653B6B8B5	11/13/2019	11/13/2031
Microsoft ECC Development PCA 2018	3300000002B51 E7CF8E219FF99 0000000000002	E37D50B7302A77D6A7 BB2DC22525B9B732E8 C10679C5B775BF3049 D46FE8ECF3	3/1/2018	3/1/2033
Microsoft Secure Launch ECC PCA 2017	3300000002681 0C8C754BF2547 0000000000002	8BCF976F5831DB3864 72F4FEB571733F852D8 84CBFC6DFB12C2FC82 CC1D93F59	11/15/2017	11/15/2037
Microsoft ECC Surface Accessory Firmware CA 2018	33000000062B0 7264B2097D6AF 0000000000006	FE56992B8657B72DA2 09FA002CF5B35098791 09BB871ED44CE920FD 29CF71FBB	6/14/2018	6/14/2033
Microsoft ECC Third Party PCA 2019	330000000740A 786F67631EEBF 0000000000007	9FF911EECE932777AE D13656033E8CBFC1A7 F9987A4FE4CC11C841 FDE9F9E6EF	1/30/2019	1/30/2039
Microsoft Surface Silicon Partner PCA 2018	330000000456B 30063CBFB9177 0000000000004	9B14BDBCFF12A71BC4 07B1FD7C37C36E2778 B91E9C8C902DDE8D1E D6E174EA5F	3/8/2018	3/8/2033
Surface Factory CA 2018	3300000004DD DEC6CCBB6AAB DF00000000000 4	4DD84211DCB0C8770E FC02F0168B39BD321E 69644DF853ED74CF17 607ABC3566	7/12/2018	3/7/2033
Windows Hello Secure Devices PCA 2018	33000000036CC FEDE2447019BF 0000000000003	DBFC7BE1149785B5FD 98A995B83184F51DE3 9E9B277BE287082F575 14007C9C1	1/25/2018	1/25/2033
Windows Hello 5CF190F8 CA 2018	330000000ACF1 94279F1555CA2 000000000000A	E605D51BFB46BAD1B4 2F45A27F36FE2E6681E 230BCAA6147E3B5783 40BD8998E	10/4/2018	10/4/2028
Windows Hello B5A8CEAC CA 2018	33000000089B6 77FEFA96B352F 0000000000008	72EA4166FE93199D777 84B728BAAAB03F8522 23940C1ADDE99B2D7C C9E8C0C95	1/31/2018	1/31/2028

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Windows Hello 1767C8B4 CA 2018	3300000009C4934D6D04A99811000000000009	A67A51F19E5E90D4A8CDD0641A02C36ADDA12BBCDCDFD374C64ADE7EB5073663	10/4/2018	10/4/2028
Windows Hello 19B92965 CA 2018	3300000007E89D61624D460F95000000000007	0E304378D8493AD6B5A1E20975F24226C3D49C7A141413E1B9728593F9FCC016	1/31/2018	1/31/2028
Windows Hello 7BB5EEFC CA 2018	33000000063F9C4116310EDE0000000000006	5E2065CFD8964873B655E32B4D2E3AF7E1853ED4668A36011BB2359E9CF72964	1/31/2018	1/31/2028
Microsoft Overlake STOS Signing PCA 2020	3300000004AC C2BD2910A9E2 C1000000000004	99F775C4B550EB5D645FBBE7394B53A2F7F5DB981D23DD1DC9CB9D152117684F	7/30/2020	7/30/2040
Microsoft Overlake Policy Signing PCA 2020	3300000005167E95DE5F29C339000000000005	304007D9BF469978D727F046C6A67966EC03A6651ACF7B50EDD2DAFDDDC959D5	7/30/2020	7/30/2040
Microsoft Overlake OS Signing PCA 2019	3300000003073B3EB29D7407A2000000000003	7FD7ECE8A7C30B084AD5C2FD5B6042E2725EF966AAA6094EB3128A6CA6BDBC28	9/18/2019	9/18/2039
Microsoft Overlake Agent Signing PCA 2019	3300000002634DA608FF70FBF6000000000002	8B655BDDD8CE27BDBF8423AA2573324EF13D38BAA6F489E2770DAE1956E325B9	9/18/2019	9/18/2039
Microsoft Development PCA 2014	3300000003C6F9B4C3AEBE594B000000000003	DBC90D98707DA5F9A7B5F7A0C7AEF1825611C250E435A16093C7E84BB75F98A4	5/28/2014	5/28/2029
Microsoft Mobile Development PCA 2014	330000000466EA9138AD65677B000000000004	1B07CB0F47425316288A57388FE75C5E361817B03D75D9C4472A379913327FE9	9/16/2014	9/16/2029
Microsoft Office Service Infrastructure China Issuing CA 2012	330000000399D180E011A0E921000000000003	836375F4E806CEC201847E800775DF8623138B7E53CF5DA331B89886CA309D7B	11/7/2012	11/7/2022
Microsoft Office Service Infrastructure China Issuing CA 2012	33000000056F56CEB0D9743A2000000000005	BD759C39DF5CA3954A6D007075B9F8A5168D4C090CF2FCE27E45AC045DCFE6EF	11/7/2012	11/7/2022

Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Office Service Infrastructure China TIP Issuing CA2012	330000000399D 180E011A0E921 0000000000003	836375F4E806CEC2018 47E800775DF8623138B 7E53CF5DA331B89886 CA309D7B	11/7/2012	11/7/2022
Microsoft Office Service Infrastructure China TIP Issuing CA2012	330000000056F5 6CEB0D9743A2 0000000000005	BD759C39DF5CA3954A 6D007075B9F8A5168D 4C090CF2FCE27E45AC 045DCFE6EF	11/7/2012	11/7/2022



MICROSOFT PUBLIC KEY INFRASTRUCTURE SERVICES MANAGEMENT'S ASSERTION

Microsoft Public Key Infrastructure ("PKI") Services operates the Certification Authority ("CA") services for the CAs enumerated in [Attachment B](#), and provides the following CA services:

- Subscriber registration
- Certificate renewal
- Certificate rekey
- Certificate issuance
- Certificate distribution
- Certificate revocation
- Certificate validation
- Subordinate CA certification

The management of Microsoft PKI Services is responsible for establishing and maintaining effective controls over its CA operations, including its CA business practices disclosure on its [repository](#), CA business practices management, CA environmental controls, CA key lifecycle management controls, certificate lifecycle management controls, and subordinate CA certificate lifecycle management controls. These controls contain monitoring mechanisms, and actions are taken to correct deficiencies identified.

There are inherent limitations in any controls, including the possibility of human error, and the circumvention or overriding of controls. Accordingly, even effective controls can only provide reasonable assurance with respect to Microsoft PKI Services CA operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Microsoft PKI Services' management has assessed its disclosures of its certificate practices and controls over its CA services. Based on that assessment, in Microsoft PKI Services management's opinion, in providing its CA services in the United States of America, and in Ireland, throughout the period May 1, 2020 to April 30, 2021, Microsoft PKI Services has:

- disclosed its business, key lifecycle management, certificate lifecycle management, and CA environment control practices in the applicable versions of its Microsoft PKI Services Certificate Policy ("CP") and Microsoft PKI Services Corporate Certification Practice Statement ("CPS") enumerated in [Attachment A](#)
- maintained effective controls to provide reasonable assurance that:
 - Microsoft PKI Services' CPS is consistent with its CP; and
 - Microsoft PKI Services provides its services in accordance with its CP and CPS
- maintained effective controls to provide reasonable assurance that:
 - the integrity of keys and certificates it manages is established and protected throughout their lifecycles;
 - subscriber information is properly authenticated; and
 - subordinate CA certificate requests are accurate, authenticated, and approved



- maintained effective controls to provide reasonable assurance that:
 - logical and physical access to CA systems and data is restricted to authorized individuals;
 - the continuity of key and certificate management operations is maintained; and
 - CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity

based on the [WebTrust Principles and Criteria for Certification Authorities v2.2](#), including the following:

CA Business Practices Disclosure

- Certification Practice Statement (CPS)
- Certificate Policy (CP)

CA Business Practices Management

- CPS Management
- CP Management
- CP and CPS Consistency

CA Environmental Controls

- Security Management
- Asset Classification and Management
- Personnel Security
- Physical and Environmental Security
- Operations Management
- System Access Management
- Systems Development, Maintenance, and Change Management
- Disaster Recovery, Backups, and Business Continuity Management
- Monitoring and Compliance
- Audit Logging

CA Key Lifecycle Management Controls

- CA Key Generation
- CA Key Storage, Backup, and Recovery
- CA Public Key Distribution
- CA Key Usage
- CA Key Archival
- CA Key Destruction
- CA Key Compromise
- CA Cryptographic Hardware Lifecycle Management
- CA Key Transportation
- CA Key Migration

Certificate Lifecycle Management Controls

- Subscriber Registration
- Certificate Renewal
- Certificate Rekey



- Certificate Issuance
- Certificate Distribution
- Certificate Revocation
- Certificate Validation

Subordinate CA and Cross Certificate Lifecycle Management

- Subordinate CA Certificate and Cross Certificate Lifecycle Management

Microsoft PKI Services does not escrow CA keys, does not provide subscriber key lifecycle management services, and does not provide certificate suspension services. Accordingly, our assertion did not extend to controls that would address those criteria.

33F845FB21044B2
Raza Syed
DocuSigned By: Raza Syed

7/30/2021

Raza Syed
Distinguished Engineer, Product Release & Security Services

**ATTACHMENT A - CERTIFICATION PRACTICE STATEMENT AND CERTIFICATE POLICY VERSIONS IN-SCOPE**

Policy Name for Microsoft Trusted CAs	Policy Version	Policy Date
Microsoft PKI Services Certificate Policy	Version 3.1.2	August 5, 2019
Microsoft PKI Services Certificate Policy	Version 3.1.3	July 28, 2020
Microsoft PKI Services Certificate Policy	Version 3.1.4	February 15, 2021
Microsoft PKI Services Corporate Certification Practice Statement	Version 3.1.3	August 5, 2019
Microsoft PKI Services Corporate Certification Practice Statement	Version 3.1.4	July 28, 2020



ATTACHMENT B - IN-SCOPE CAs

Root CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft ESRP Root Certificate Authority 2017	58B17CFC6CC26A854CE3CEE99B9CED31	688C6DC8E714FFB0A A7510203108ADB2B0 FBEDD984EC7A0EC11 56F9808603D8D	7/25/2017	7/25/2042
Microsoft Corporation Third Party Marketplace Root	33959C19504871914238DF73D3B49A3D	2848361A9C1E32DF1 D3E2ED6A7B9E67A52 5CF8A13B164F8006C 9479578F746DE	10/5/2010	10/5/2035
Microsoft Surface Device Authentication Root CA 2014	6F9DA0A6C962B492416F0C096A10C4A7	09EC71FD906AE752F 719D4E43ACA977976 0C8BEDF49CD6B1253 CDA5ABDACF5C	3/20/2014	3/20/2029
Microsoft IEB Services ECC Root 2013	08DFA9B977622FB94001962C8A412A68	A1E021800C9FE32E5 CC07022A391AC1C65 4F1D794CD5F4FD6F4 8203E275A82C4	4/18/2013	4/18/2038
Microsoft Services Partner Root	7388686D90CB78B64517735B2F3888B6	4EAC5578779EDA094 585262381739418680 89D3E4974647A62F90 C826E24DB80	8/24/2010	8/24/2035
Microsoft Code Verification Root	729404101F3E0CA347837FCA175A8438	CA7791D5C9A1580DC DCAD31D0549FEA204 3E229AA4F4932CFA05 6CA23EB8A950	11/1/2005	11/1/2025
Microsoft Services Federal Root 1	05E52382B560F3B84F8022EF4D74ACAF	94B67F8C7767AC8D0 E093534DD52398D0B3 818CE3C02B09A010EF 6EF007ED3A5	8/6/2010	8/6/2035
Microsoft IEB Services RSA Root 2013	5378D5D6EF497B80425015E78456D57E	437D53DAFA52B165B B2FC919F06BFC7DCA 1AA4A95455D072E23 602DF9EEB1C15	3/8/2013	3/8/2038
AP Root Certificate Authority 2014	3F065B95C3D0109D4DC4120EB0316404	88EFE5CC2FA5891C9 8DF8803B5975127C9 811C8FC79D59CC51C E51FB5753F7ED	1/14/2014	1/14/2039
Microsoft Mobile Root Certificate Authority 2015	1BEB08E2F1187AB94BFE35C95E2A2D90	A73E7102ED2897DC5 DB7B2941591128A9E 34769DC75577752D1 AE09A908D3352	1/6/2015	1/6/2040
Azure Sphere Root Certificate Authority 2020	15326D2AD2C0C4A349DDDA39B4ED1D12	A18A6B15DA52BBFB6 CD591219203BA304B 60D56A67B82D1019F 24EC041043D9A	2/27/2020	2/27/2040



Root CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Factory Root Certificate Authority 2019	39D0A9B3087F60874 F3481089F5CA9A8	E55471721F0CD9EAA 82F60414FBE4832062 6070221A21AD2D04D 185F4FB0653F	12/11/2019	12/11/2044
Azure Hardware Root Certificate Authority 2019	1CC000D8B98319884 CDCF217C1C742D9	7306A1EA0F3ADF2FA 90225C2CFE33968FA 0393C54D9DFC7A5C8 15DAC0B32923F	7/3/2019	7/3/2044
Microsoft ECC Development Root Certificate Authority 2018	38623F7C7714C6AA4 424574A882945AE	403F7ACC71E20ABE1 E5499BDD979DE9FC8 B56630A4F46C4393D 657171B368C29	2/27/2018	2/27/2043
Microsoft TPM Root Certificate Authority 2014	5DB6304E0CBF27BF4 9B8C869501E5DCB	870C7A35CEAB3D599 79F2C6A524042D404 CB71518004350925F B2CED79A999DA	12/10/2014	12/10/2039
Microsoft ECC Devices Root Certificate Authority 2017	2ACF722BD9145EA94 C541F9F485D5432	4C25971E3BDDE59D1 78F7A5EF62561E9E88 EDD93C274DDAA5228 40CD4B4B517E	11/9/2017	11/9/2042
Microsoft Overlake Root Certificate Authority 2019	685BBE25C463E7A54 6C78607FDFD5516	5400B611F6B21D902 08219217D58040EF6 D905357DE3D6FC270 C42B62753ABD1	9/6/2019	9/6/2044
Microsoft Development Root Certificate Authority 2014	078F0A9D03DF119E4 34E4FEC1BF0235A	41668293CBB726868 D5B6AD4B4EB8DC12 5C944B48F848DF736 AF37E43007E26F	5/28/2014	5/28/2039



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
ESRP0 RSA PCA 2017	3300000002573 25634AFF9C7B0 000000000002	DF63D390A4D82A96EA 6B75796E51F75554C3 DC2ED0BCE198EEC2B3 1E131F0B08	8/2/2017	8/2/2032
ESRP2 RSA PCA 2017	33000000033E0 7CB8A6D5C05F 0000000000003	2DDA32F6128A2837D2 D999E8F8C0513BD4D4 A9445EDBC50A4B392E ED94762950	8/2/2017	8/2/2032
Microsoft Corporation Third Party Marketplace PCA	61362CA700000 0000002	B17E8201B128E1E74C C023510AB7EA03AC27 DDE50D32D810EA1577 758F1CC098	10/8/2010	10/8/2034
Microsoft Surface XLFF 2 Firmware CA 2016	3300000018751 39CAF51EBEE1 8000000000018	1D7CE201712FCC2A0C 00DE8FA6EBB3A509F3 0D4C70FED88EE332D7 E2042C3822	5/9/2016	5/9/2031
Microsoft Surface Hub Firmware CA 2015	330000000C2D B0C4D8944802 B100000000000 C	809BC34F80154EB3F91 4D946C2C88E71954E8 6B021438E51AF79BFE6 847F60B3	2/16/2015	2/16/2030
Microsoft Surface NFF Firmware Debug CA 2015	3300000014CFB 96102AAC57EA 3000000000014	A7B31AC9D96CD8D3A6 80F6CB7854FB2365BE 33B6986188F148DFDB 3BCF55F8E5	12/16/2015	12/16/2030
Microsoft Corporation KEK CA 2011	610AD18800000 0000003	A1117F516A32CEFCBA 3F2D1ACE10A87972FD 6BBE8FE0D0B996E09E 65D802A503	6/24/2011	6/24/2026
Microsoft Windows UEFI Key Exchange Key	3300000024BA9 3709D65A0F294 0000000000024	7C3EC41EC603D19F84 957105818005E46517A 79D5E17FFEB39CBC40 3BA7CEE4B	12/15/2020	12/2/2021
Microsoft Windows UEFI Key Exchange Key	33000000238BA D7F19EABBB91 7000000000023	88FA75344477E9372C1 442E71EB2540BE2AF7 C9211C00FF848079E92 C753179C	12/15/2020	12/2/2021
Microsoft Windows UEFI Key Exchange Key	3300000022BA6 F4E9475565449 0000000000022	A20607D78C0D615132 A8B4B87A99FC982A9B FC4EACCA2045FF2F28 71CF9DFC85	12/15/2020	12/2/2021
Microsoft Corporation UEFI CA 2011	6108D3C400000 0000004	48E99B991F57FC52F76 149599BFF0A58C47154 229B9F8D603AC40D35 00248507	6/27/2011	6/27/2026



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface Services for Windows 8 Pro CA 2012	3300000007927 FE45A86B07D8 6000000000007	1B1837D51CDC79D862 8161C6D8040579BDFD A4780BBECFDE2108F2 1AA806AB28	8/2/2012	8/2/2027
Microsoft Surface for Windows 8 Pro Firmware CA 2012	33000000044E1 0BB8D09BB1DD 5000000000004	22E643EA81C5B728837 59EF47A7D22EF25DBC 76AE7DA79878D80F2B 97BD4C495	11/8/2012	8/2/2027
Microsoft Surface for Windows 8 Pro v2 UEFI PK CA 2013	33000000074E8 B0FF49EA3BA9 5000000000007	D9AF98FBF7E1F9FCC8 21DF455124BAE937F8 6A38BE295F0D57F4AB 06F63FA70F	5/7/2013	8/2/2027
Microsoft Surface for Windows 8 Pro CA 2012	3300000003639 37A458A670079 0000000000003	536D41C869EE81B13B 0C6962D321589FDF1E 8BBFA136E909804A76 B277FB3DD7	8/2/2012	8/2/2027
Microsoft Surface for Windows 8 Pro v2 Firmware CA 2013	33000000060F6 0FC158295BA49 0000000000006	08F7F1C4280BC9B81E 9724F5322B5F6B7FD09 58D63C51245DE05AE5 900B6AEB1	5/7/2013	8/2/2027
Microsoft Surface MFF Firmware CA 2014	330000000CD94 D05EAA2313BA 100000000000C	96994BC15B94C9F109 EDA945CE61459AD709 81861ABD1977094EB6 FE2CAE3C27	4/9/2014	8/2/2027
Microsoft Surface XLFF Firmware CA 2014	3300000010E96 B8AF18EA1B89 5000000000010	6488E92A224E9BE241 CD4552A09A55CF2646 5A74505297CDD5FF5 72D302D001	12/10/2014	8/2/2027
Microsoft Surface MFF UEFI PK CA 2014	330000000D978 176E0E46CBC0 200000000000D	98713AAE611EFDD08E CD96ADA94FF8333AF6 4574FA4CBE5B25E418 27344484AB	4/9/2014	8/2/2027
Microsoft Surface LFF 2 Firmware CA 2014	330000000E6B6 D4BC71139B9D A00000000000E	F8DC2B715BD57C5CC4 1D63760EC6A9FFAFF5 B862325C698F29B866 C3716401BA	8/20/2014	8/2/2027
Microsoft Surface AFF UEFI PK CA 2015	3300000013BD6 CE0416871E107 0000000000013	183EA80013A2BA4B9C 5B0CD9F708AAA2E853 B01CA3A08EC37B7CD8 36578E1180	3/4/2015	8/2/2027
Microsoft Surface AFF Firmware Debug CA 2015	3300000015DAE 27AFAF84F3BD 5000000000015	C5B73665373A61086C 776C8FC65B258D29C4 9B94B22BFA950675373 673602E0A	1/6/2016	8/2/2027
Microsoft Surface AFF Firmware CA 2015	33000000129B7 E6E4473C52E5D 0000000000012	E77C802A480BE0357C 079721FF560A79A8579 AA76D3718BB65B7B60 4984268EC	3/4/2015	8/2/2027



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface LFF 2 UEFI PK CA 2014	330000000F164 E6168C323F0C7 00000000000F	FA4BF3F3B46A042C35 920800F7A1EE10FC524 3497B82A560CB50821 D42DFD2BF	8/20/2014	8/2/2027
Microsoft Surface LFF Firmware CA 2014	330000000AB3D D75AFA617B49 600000000000A	50B0AC6DCBB7A58719 994C32C763B71A895C 71C9C705F2DA7552CC 6409789A32	1/29/2014	8/2/2027
Microsoft Surface XLFF UEFI PK CA 2014	33000000113FA 8B680B9432BC0 0000000000011	501860B3AEBEF526E80 4F30905BC773A32AC3 9EA8FB4AF446BB2B99 8DED9560A	12/10/2014	8/2/2027
Microsoft Surface LFF UEFI PK CA 2014	330000000BC06 653149DB57AB D00000000000B	12617FB5044929854EE EE299E9398C0566D4D E169B82C18312D6753 45EE74B8F	1/29/2014	8/2/2027
Windows Phone KEK CA 2012	33000000005A08 50232300089DB 0000000000005	87B3C9F7E4C519581E 0AD87F38E65D78C31C 64568347F6C2F106B23 E909DD87F	7/6/2012	7/6/2027
Microsoft Surface Services for Windows RT CA 2012	330000000692D 3A9E2B66D44D 5000000000006	E43F4CE85ABDD8E41 C0677935DEB6D0EF8 F106C82339A450D6C9 9C67BF3371	7/18/2012	7/18/2027
Microsoft Surface for Windows RT CA 2012	3300000003E14 54F72BA89F351 0000000000003	4245D5684381CB28EE 9208AB6B843AAEB8A2 6C5027411086C3C39D D7D0F3E52B	7/18/2012	7/18/2027
Microsoft Surface for RT Firmware CA 2012	3300000008BC3 A03FE46CFB75F 0000000000008	9B29EF1744163306931 F8417588F9C2E9DC20 6CEDC7EA48AA24CC6D 16BB192A3	8/17/2012	7/18/2027
Microsoft Surface with Windows RT v2 Services Mobile CA 2013	330000000E373 D40FB2528F4C 800000000000E	0103D60A79694F040F9 0C1D326E5054216A5E ACD9F59D988591C877 35DFD70DE	4/24/2013	7/18/2027
Microsoft Surface SFF Platform Key CA 2013	3300000012E9C 50E4DEA0548B 1000000000012	E3A2FB3C55A8B41E3A E415B6725A1BF8F874 AFB02E846B2B2F21F75 EB6636854	6/5/2013	7/18/2027
Microsoft Surface with Windows RT v2 Platform Key CA 2013	330000000CF99 C723A5F63E027 000000000000C	F84BD4AA351FD7F76F C16A4822C371F4F014 87CD255619299CFFCB 6C93DE1F13	4/24/2013	7/18/2027
Microsoft Surface with Windows RT v2 Firmware CA 2013	330000000D1A1 BE0D442800712 000000000000D	2A3AA801885B9C5000 EF39DA51BAAB773C5D D90216C4F422B4BDEC 578B20D0DE	4/24/2013	7/18/2027



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface with Windows RT v2 Boot ROM Fuse CA 2013	330000000B00B0341890985EC00000000000B	65296AFAC4FC9C25968F1EFC246AFA13F99B47B08EC5A80A92D81A06A5321FE3	4/2/2013	7/18/2027
Microsoft Surface SFF Firmware CA 2013	33000000139CD5B42766AB738B000000000013	BAF41DF93531F48976A2A5B581A728C34BAE8ABE270B5C9F3D99D32DBD0ED4A1	6/5/2013	7/18/2027
Microsoft HoloLens Firmware Debug CA 2018	330000002C63CA4B934C5FB83F00000000002C	8908A17FE5FD7CDEAE4891867995074538B9A3CB180BB4C1011221AE3F8B172E	5/15/2018	5/15/2033
Microsoft Pinewood Attestation PCA 2019	330000002F2F99DC578769311C00000000002F	E1A2DB7A816B59E83F7001643464C27AC44FEE1E4B2BE0236BA6116F586B0BE4	1/3/2019	1/3/2034
Microsoft Pinewood Attestation CA 2019	33000000037AD96B0EF95A3C98000000000003	F9A3780BCCE9DC65130612AD348756A07EE1AC6CCCD056CFFA30BDC17EAE599C	1/9/2019	1/3/2034
Microsoft Andromeda Attestation PCA 2017	3300000021DED C9928B9CFCCD5000000000021	34046EF5E08C14E01BE8883BFBE0E5C31A8E407B5B3B98C88F8A86C8D98C1235	11/1/2017	11/1/2032
Microsoft Andromeda Attestation CA 2017	330000000581EACDD9379FA7CD000100000005	483FA02B01171CF63DF9B6E1E586F3B0A8278526E7E8E91F6653F7A5243C599F	11/1/2017	11/1/2032
Microsoft Surface NFF Firmware CA 2015	330000001228194D3339AF04D3000000000012	B60898040C5C697CBD9F9AA838E02BB1EF28C6834A76EC1EEF67A89599E2E799	11/5/2015	11/5/2030
Microsoft Surface Common Services CA 2014	330000000BAAAB1126756134AA00000000000B	6A43F586AA13D87F78E3826B0325D5CB2E12F5B6CB2226691E8A05F13CD639FE	7/23/2014	7/23/2029
Microsoft Surface MoBB-1 Boot Core CA 2019	3300000004DDC86C5F43A1F0DD000000000004	42EB0F72E199E88A9A5F5339D3F411856BEC2FF48D778A60CAB2AD9CD17401BB	3/6/2019	7/23/2029
Microsoft Surface MoBB-1 CA 2014	330000000392DE0AF30239302F000000000003	1787A4FD58AF3D2195CDC239569AE0B30E5954D071EEB7CB08EE7D9A64302FE2	10/8/2014	7/23/2029
Microsoft Surface FFF Firmware CA 2018	330000002DCE54926C882808A600000000002D	C721EF9F0C61D94C7C1DA07D11AB14BA32CC06247C5FF65559804EC91E7E4A63	11/6/2018	11/6/2033



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Band Firmware CA 2015	3300000015DFE A689D327BD13 D000000000015	D1C7F14C7EE6878CB9 CC6D5E92F90B1B3082 AA682BFE9754DDC5AF AAE8357D2	12/22/2015	12/22/2030
Microsoft SH2 Firmware Debug CA 2018	3300000025924 954A84A84C1E 8000000000025	B83388988464019C52C 5DF5B97C0EAB871738 A59BCCC4F8B03436C6 002F3EFB8	1/12/2018	1/12/2033
Microsoft HoloLens Attestation PCA 2018	330000002B4D5 E20F9706A55A C00000000002B	34EBDCFAD4C02C3FF2 3A18B14A84E9D17773 DD29EBAA85FF576903 2C2EE11760	5/15/2018	5/15/2033
Microsoft HoloLens Attestation CA 2018	3300000003313 F0C58D5AFAC9 E000000000003	2233451158575160E97 054D2F50B437F6F045C 316258BDCC8E14150B C46722FC	6/6/2018	5/15/2033
Microsoft Devices OEM Code Sign CA 2018	3300000027AD C53F55D9A26B 7400000000002 7	4C12C4560AB4366838 AA2412F1F5741C0C02 972A99D1F82060E99A 02AC246EC9	4/19/2018	4/19/2033
Microsoft Surface Hub UEFI PK CA 2015	330000000D47C BF788003F3523 000000000000D	C9088BEAFD93D4FDF2 3502F7A942CE4A7960 9D236BAA9F4537E546 AE44A5274B	2/16/2015	2/16/2030
Microsoft Windows IoT KEK CA 2015	330000000FB44 6B92066425522 000000000000F	CF74CD44C2BB5EF558 36290AE926C660F884B F11C342E09342264633 80BF2468	2/26/2015	2/26/2030
Microsoft Band Firmware Debug CA 2016	3300000017301 79BF76B593DE3 0000000000017	4F600A946C1345CEBC 2A6BBF84B0F6990E2D D59E13596C35143ADA 6BF312B927	3/30/2016	3/30/2031
Microsoft Windows IoT PCA 2015	3300000010A16 7B918D0BD921 F000000000010	974D20E4D194D5E1BC 0BC7D85513C661C8B8 8807F4113CE2FCD0D1 4E8906C68D	2/26/2015	2/26/2030
Microsoft Windows Group Edition KEK CA 2015	330000000EBE4 2C98EB4B40130 000000000000E	562068F4667DD200877 2C131C5D40082E7B73 79DE55DF47AB5732AB 99E67AAEF	2/16/2015	2/16/2030
Microsoft OEM Custom CA 2014	330000000A2D8 22051E6A15E16 000000000000A	B6181AB8E72E555556 CB356AB7BCCB422BE8 7670085B0DC5C00C92 986F414114	4/3/2014	4/3/2029
Microsoft Surface XSF UEFI PK CA 2018	330000002A3C5 6C6CA26CCEF1 000000000002A	886D1FF04EE498C7A5 1F513A2103DA7380DF 2546FE5B40476A2A061 36AD4DD75	4/25/2018	4/25/2033



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface Accessories Windows Firmware CA 2013	3300000008AFB24A1F91A4F7C3000000000008	555F969D2A362EB3E9CD48A269FAD9C366CC57971539020304574F2E3B17FE05	4/2/2013	4/2/2028
Microsoft Surface XSSF Firmware CA 2018	33000000285A1203D634851A33000000000028	544BA6F7DF5640A86238C760DAC327FA90861FFA0C62F830021D438DF3D6D2F7	4/25/2018	4/25/2033
Microsoft Atlas Attestation PCA 2020	330000003129D45F6344642643000000000031	87D60B58A4F2CF65954BC39D58872CF5DC84ADCFB25CB97607FA94B7CB5569A	12/15/2020	12/15/2030
Microsoft Atlas Attestation CA 2020	330000000344AF084C8E1FDC8B000000000003	468D949FE30207A1E11842F2579F152907BC3F872AC8C0231963C847E38B8BE4	12/15/2020	12/15/2030
Microsoft Andromeda Firmware Debug CA 2017	33000000230D1B7A2B5554C556000000000023	12AA98347AC4200D4C58284E3C5DE1E6043057A31A04019739324DEFDB833CF7	11/22/2017	11/22/2032
Microsoft SH2 Firmware CA 2018	3300000024BAE44CB77FD64457000000000024	F63633F3CECEE5002F980288C2CEDA6936D5CCA85A22B400682EA0D005FEE126	1/12/2018	1/12/2033
Microsoft Surface LFF 3 UEFI PK CA 2016	330000001D3FD706A8820A7C9E00000000001D	6E650A4C48F99AD47CFE63A078909EA46618D55A35C500B919D0CB A37399B1B1	5/18/2016	5/18/2031
Microsoft Surface LFF 3 Firmware Debug CA 2016	330000001C034EED30C7B52EBB00000000001C	69DFBB22FEB8BDEE490AC203D23430CE6DCF70D32F975084BBFF5A A4B49BEF3A	5/18/2016	5/18/2031
Microsoft Universal Store OnePay PCA 2015	330000001139517E323D1D1FD6000000000011	75AD0DC59DE9993BE5A64B03748E5F5CD309E89C6E6F153E25E2BA202F21D360	9/8/2015	9/8/2030
Microsoft Windows UEFI PK CA 2017	3300000022307F7D1D44F82D81000000000022	C209C7DA8FE8AB2B16BE32CB43CBE8F8D158FF572C943A9A6703E012B180DBFE	11/22/2017	11/22/2032
Microsoft Andromeda Attestation PCA 2017	330000002087C3FB3C3A26853D000000000020	263E224894E76810D8ADB53921BA1867324A7D79FCD36AF09AC187F64A762FC	9/21/2017	9/21/2032
Microsoft Andromeda Attestation CA 2017	3300000003A0650B82B7E8DF6000000000003	358F6EF64AE7DF8E6799D2792A113E8E8EFBE526E16098E7BFE2A8CC86DD6F9	9/26/2017	9/21/2032



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface FFF Firmware Debug CA 2018	330000002E9F3 1E1CD04FCD3F E00000000002E	F265325A8840D2C9F3 2EF52F757AA56B27AB 83F23D63D467BA19BC 4F070392E8	11/6/2018	11/6/2033
Linux Boot Loader Signing CA 2016	330000001E1CC 39541B37C539A 000000000001E	1289B875E55A0BB0159 7BE51C9ED95A3970F0 0D6861840094242932E 02FCB901	9/29/2016	9/29/2031
Linux Shielded VM Secure Boot	3300000011C5C EBE5B7867E20A 0000000000011	67A811118B4F00FC610 8FB30C506A2DE70FE2 610ACD3538D300FD80 5B76A49C1	12/15/2020	12/2/2021
Linux Shielded VM Secure Boot	3300000013A8A C2C3E77AB629 B000000000013	72BF2AE88CF9136C26 5A6B3FA8FA73D3AECF 0679637CEB836A7222 BE1EB70AA2	12/15/2020	12/2/2021
Linux Shielded VM Secure Boot	33000000124CA 9BD51DC17096 0000000000012	C6E8B531250DA2D93F C30B5D78850B9CFCB1 F96D1200EB7F4473985 AF5D222EA	12/15/2020	12/2/2021
Microsoft Surface XLFF 2 UEFI PK CA 2016	330000001AB95 5D27398F6A375 000000000001A	4C7002E4A3C4D3F0F9 E8CC141BDC4257BA3A 73237FE13B6D433031F 524B13153	5/9/2016	5/9/2031
Microsoft Surface XSFF Firmware Debug CA 2018	3300000029328 345547DA23286 0000000000029	264318C3E0125AA16C 7F49BBBBA2344076CD 680F3FDDE32ECF1DAE AFA0E5C0E4	4/25/2018	4/25/2033
Microsoft XCloud PCA 2018	330000002693B 815696A1FAAE 5000000000026	5370A2CD4C54A81031 680E35E8FC8925B2709 425F7F08F4FD63E0CE7 43AB178A	1/25/2018	1/25/2033
Microsoft Surface XLFF 2 Firmware Debug CA 2016	3300000019E5A 1581427E0E8D8 0000000000019	36FF80BCC75DF08022 D70BC9FB322D421767 61A0ABF6AC8E7C1FFF 848DA60F79	5/9/2016	5/9/2031
Microsoft Surface LFF 3 Firmware CA 2016	330000001BE78 BAE24E4EC1B2 500000000001B	79EC0FD85704624EA0 2EC27ED3973F0DDA05 B588082EA3C4A8F35C 81DC080328	5/18/2016	5/18/2031
Microsoft Surface Ganymede Attestation PCA 2017	330000001F7B0 4B19C6C25F799 000000000001F	706CC20D94950D1E8D AAD69DFBAAF02ECB22 855C1045CC3FAE617D 6FF02B74A1	3/31/2017	3/31/2032
Microsoft Surface Ganymede Attestation CA 2017	330000000327C C35582D908633 0000000000003	958C57AB822F88771E D4ADDEB0B8AF3E9A3A 37DBF6C81E663D1380 AF94242320	4/11/2017	3/31/2032



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Surface Services for Windows RT CA 2012	330000000987D5C8FDC251171B000000000009	5F51A43F39F6D151BE718DC8456464ADE11F4D4C33B610AD9EDEC52D4BFF528B	6/17/2013	6/17/2028
Microsoft Surface for Windows RT EK Issuing CA 01	33000000197E146A8ADA95EB1D000100000019	B0E3B48CC492EED111CC6C291F4F205BE3101FD9555F99B189FF855BB98A75B5	8/8/2013	5/8/2028
Microsoft Surface for Windows RT EK Issuing CA 03	330000001B1338A824B422CCB300010000001B	E7CCB9BAA24B83CEDE6CB9D9AF1B2567082CAF43CC54B4D20BE97ABB26D8C2B6	8/8/2013	5/8/2028
Microsoft Surface for Windows RT EK Issuing CA 02	330000001AE3EA706DB5CB5AC100010000001A	D7E09399BFA92E84000F299FA3597AC4823DD9C5319C37A6B680E62ACE4E07D6	8/8/2013	5/8/2028
Microsoft Surface SFF Attestation CA 2013	3300000021FE48D750C465F687000100000021	334700F29B2F542AFEA04E80F0D4D24BF3A5498E087F25F4F3012E74EFC45AE4	12/20/2013	6/17/2028
Microsoft Surface for Windows RT EK Issuing CA 04	330000001CA12C7F2A025C770100010000001C	19DF338B05462BE48F4ABC385A7DFBFE10677A6E7C78AF18FA05F4C3EA4C2717	8/8/2013	5/8/2028
Microsoft Surface NFF UEFI PK CA 2015	330000001350615E2400CEC67C000000000013	5BA637CB3BCD37501F2EACDF6C0666B729139A64A202CE275308ED22870C65EA	11/5/2015	11/5/2030
Microsoft Devices UEFI CA 2016	3300000016C4B1C7A92B57BE09000000000016	E30D58A85CCED5A4A419EEFABD8B629948BCB0E6BE19637C5911ADE9FE6BE00	2/11/2016	2/11/2031
Microsoft Atlas Firmware Debug CA 2020	330000003033FAD173E56FC6FF0000000000030	65142EDADA234E3FF6DF875C5D2084F975DD18A464164BDF76579A4C9EB04200	12/15/2020	12/15/2030
Microsoft Codename 4x4 PCA 2017	330000000F527BDA1E9F756A0A00000000000F	ED12D01C4F7BCC3651E62FCE0603BABBF4DC52596423CACF02372139F3124FFC	9/12/2017	9/12/2037
Universal Store PCE ECC PCA 2015	3300000006D141128DBB8485AC000000000006	4337269B71342348BABA55BCF518292913F26EF5EFC1F33DD65DFB08567B8464	10/7/2015	10/7/2030
Universal Store Onestore ECC PCA 2015	330000000A7E8C9D7C69A42E9D000000000000A	65FFCC0A0472816C9ED759FAB092F4CEC7241E06D08068DB4FC079562EC090F0	1/26/2016	1/26/2031



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Universal Store Prod ECC PCA 2015	33000000059B24470A49B341B6000000000005	CF3C954F7BFF4FB928CFAEF06C0C79A79C9C3936760D13836433DA865997F223	9/1/2015	9/1/2030
Microsoft Central Access Authentication ECC PCA 2015	330000000214CEA8FE7ABEF03000000000002	6047A0D1A5AE7402945E17E75403DA7C44F953759154E64177F87C4D232BA017	6/23/2015	6/23/2030
Universal Store PCE ECC PCA 2015	3300000007A7DA1675D2ED14DB0000000000007	BEE1DB74C3DC4CE1594AE2C98748C3D215C67808C230AA54AC3D59BC5C85ED01	1/20/2016	1/20/2031
Universal Store Onestore ECC PCA 2015	330000000476F3C5B9E4816CE80000000000004	9DA92134CBC836AF09A523E3B4FD45C1B4D0A1FBD695B74D5137ED52921C7493	9/1/2015	9/1/2030
Microsoft Code Name 4x4 PCA 2017	330000000E101FBD50A28B351B000000000000E	5248DA95516914D4A1DAFE2AAC49FA53212E95421B7BFF0A807181075A8F971F	9/6/2017	9/6/2032
343 Industries Section 3 Production CA 2017	330000000C474E07B9ADD17E81000000000000C	F3BE668072D34F2D8AEA92AF677262A933927CFF95B829D144551885E1416120	5/16/2017	5/16/2032
Universal Store Non-Prod ECC PCA 2015	330000000335F3DAC6C45EA7150000000000003	7A4F009D3AA1E15DBDC2F27DB33E861A2F85200FF944C1804501D070FF84A9B8	9/1/2015	9/1/2030
343 Industries Section 3 Test CA 2017	330000000D2F410C98729E7DD7000000000000D	0A3530FE9AD35CD73CFE255AC70EAF40892ADD08BB97998490CAEB1AC9B70062	5/16/2017	5/16/2032
Universal Store Prod ECC PCA 2015	330000000B5CB947ACD6722E5B000000000000B	614AB7FFB13680E467D0A045C7A3E2D2990A2D31C9D0FFD681DA7096A181F815	1/26/2016	1/26/2031
Universal Store Non-Prod ECC PCA 2015	33000000098C95000F613252030000000000009	95DAF6296A110D0A17041D04F76637F13B106BC93297008EF6CBF576EB630271	1/26/2016	1/26/2031
Microsoft Central Access Authentication ECC PCA 2015	3300000008A81865023E3855B80000000000008	A16729B3A5E053E3D0D882B77D3056B4C1F35D6F25ABD691AF4EB02F8EFE9DA2	1/26/2016	1/26/2031
Microsoft ECC TS Root Certificate Authority 2018	33000000149843474594317849000000000014	D4D27BC233F38B4414617E72871F54D40758AB988072D9FFEC31AEDA60ECC6D0	9/28/2018	6/9/2035



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft RSD Software Ring 0 CA 2018	33000000445891DC8AC86B1AFE000000000044	7473ED968DF2C2B094FFA30F0A20A570A2B4336D0222C27F1245D2C455DB6323	3/14/2018	3/14/2033
Microsoft Office Service Infrastructure Issuing CA 2011	6107A14E000000000000B	8D4A3715E616B63369C9B1187240413248F00B452464B5E63AD3CC8CCCB502E0	7/13/2011	7/13/2026
Microsoft KMS CA 2011	610F0E5E0000000000004	AA0D15514BDD3D477326D81095E9D193C2EB5464E9D273B4C6FDF4DCC32D7CE0	5/13/2011	5/13/2026
Microsoft Office Service Infrastructure TIP PR Issuing CA 2011	610C12740000000000006	31999F6A276A58F067335540DBC892CF0342E53C9E00C06E7C5411CA0AF7D5C7	5/18/2011	5/18/2026
Microsoft Office Service Infrastructure Partner CA 2012	3300000022C628912ED8B85895000000000022	DF403466D46C5BF80F18D1D87B1AD3B08C697847D8FDB3A3F7993B63EABEB3D6	10/30/2012	10/30/2027
Microsoft Office Service Infrastructure China Issuing CA 2012	330000000399D180E011A0E9210000000000003	836375F4E806CEC201847E800775DF8623138B7E53CF5DA331B89886CA309D7B	11/7/2012	11/7/2022
Microsoft Office Service Infrastructure China TIP Issuing CA2012	33000000056F56CEB0D9743A20000000000005	BD759C39DF5CA3954A6D007075B9F8A5168D4C090CF2FCE27E45AC045DCFE6EF	11/7/2012	11/7/2022
Microsoft KMS Issuing CA 2011	610723D10000000000007	3B47914002579950DEF516682A41ABF116A2458EA58250FFBED9332FBCB19AB3	5/24/2011	5/24/2026
Microsoft Office Service Infrastructure TIP Issuing CA 2011	6107A1AC0000000000000C	99FEC19B8ACBFF4FFA6B2601DF39AD51D4684A21EB745A80FF10A2784848C0FA	7/13/2011	7/13/2026
Microsoft Office Service Infrastructure PR Issuing CA	6109CDC40000000000005	E6F520FF3585577DEF6A1BB0BCB645518692908ED622850D9554F48CBEB554C1	5/17/2011	5/17/2026
Microsoft Office Service Infrastructure INT Issuing CA 2011	610B53E700000000000008	9DA2F35BD5CB1A083D022DCDE65FC3C1106236277BD66EA10D2F04007DBCAE7B	5/27/2011	5/27/2026
Microsoft Office Service Infrastructure TIP INT Issuing CA	610DB5A400000000000009	F92B7C9AFD91C57208F1F9D3DF98EA1920DA7796814B6460FC1210F4AB785567	6/1/2011	6/1/2026



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Exchange Services CA 2015	3300000025C04F3F6B97FB521B000000000025	2E5661B50E76147999499DBD75B5C9B67201E9128AACAO5BFA3AAFE D6953C98C	6/16/2015	6/16/2030
Microsoft RSD Software CA 2016	330000003003158856E6B0689E000000000030	16DEB97064EEF93F485A92CADD5A3163655AB7C0C87A1ABFE79C88B F0E5686AD	12/6/2016	12/6/2031
CloudBuild Source Cache High Trust Intermediate CA 2016	330000002F95E065F6BCDBAEFD00000000002F	D36303241ACBC33D786E6385C2831BA33E9B68CC27A86822F69BF9 BBD14114D2	12/6/2016	12/6/2031
Windows Internal Build Tools PCA 2020	33000000565AB569CB1D94682C000000000056	5B20334FE6B3F360F02E7B197D32656D1235353DC04BA19FA261978 1EF59F715	2/5/2020	2/5/2035
CloudBuild Source Cache AP Classic Intermediate CA 2016	330000002E7033AEA71F678E3800000000002E	9DCC938B003601896DD6EBDA18887E3C3E77B5C679CA56DF492DEE 95E90CA850	12/6/2016	12/6/2031
Microsoft Services Federal PCA 1	610C3A8D00000000000002	4302542F996AF96870E27C0F1787703ABA63C949D0F700B80118734F55CF7807	8/12/2010	8/12/2025
Poseidon Accessory Authentication PCA 2013	33000000021D213BB8042638B4000000000002	6F3B4AF8B38269075D72C11CA35953753889A1D1010A1E12EA3AEF666F81C0EF	3/8/2013	3/8/2033
Xbox Services RSA PCA 2013	33000000047E685B34D4E184F1000000000004	9006DF0A538943D8E3997AD0E554D112DFC4F7DB05B6590D806694966E32DC15	4/16/2013	4/16/2033
Xbox Services RSA PCA 2013	3300000006DA A12FDC2B9379270000000000006	7D0BA2C9FF2747A63F6667ECB32B2EE8B85657E68E3B51EE539663A9C5877CD8	7/8/2013	7/8/2033
Universal Store PROD RSA PCA 2017	3300000000AE782155117F8352500000000000A	EBF08C5CBDFAB006BFE6B3F51C4FB8CF2A93B8FDB62BCB9F32C34E0286105F79	6/1/2017	6/1/2032
Xbox Services RSA PCA 2013	3300000005E80EF8B44765E63D0000000000005	418DE5CFEA76E704D8CE5AC3E226E3C0CCE8D96452833825EA52DB9276E1C924	5/16/2013	5/16/2033
Universal Store PCE RSA PCA 2016	3300000008CFE243AE15526C5B0000000000008	EACF321B7E6ABF4B2ED36999F3F07AF2A16D01CB5149EB40C96FAE DACC9612F8	6/1/2016	6/1/2031



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Universal Store Central Access Authentication RSA PCA 2016	33000000090303CDD2013EF47000000000009	BC9C02801930C9D0DDC443FE95B595A395213F9FC6F619D1054C02A35105FA28	6/1/2016	6/1/2031
Triton Accessory Authentication PCA 2013	33000000038D6BA4128F30E8DA000000000003	7CA5FC48BFB9767FAC95F393A271BFE2449D59A9D965837D50FF15AD46781793	3/19/2013	3/19/2033
Microsoft VSMC PCA 2017	33000000091DBA0349F054D5D30000000000009	895FBD56AE079ED9FAB177432D298C0575A04B920E6DCAFD1B112163180EE538	9/26/2017	9/26/2032
Microsoft Mobile PCA 2015	3300000005D0DB2EAF11D1C540000000000005	142D730CDA05127248C73E00B6CC1B75C344532F505E20DF42AAABB7B9EDEB7E	9/8/2015	9/8/2030
Lumia Labeling CA	3300000002714B8C831249C25F0000000000002	E5A067B80331CC1921E959E0D3577AAACDD6023C5976A44631602161929E521B	1/28/2015	1/28/2030
Phones UEFI CA 2016	3300000008115D0C8102B6B0740000000000008	DC127501A5470A4EB56B29940E08B04FE258595EB42CC7087D7738F5E50352BA	3/30/2016	3/30/2031
J2ME Manufacturer Domain CA 2015	33000000062C269B982C16386F0000000000006	C5C202F5C36DA600185EC9065D25450932C41C1EC6BD40B9E24A1CC3ED13F201	9/10/2015	9/10/2030
Lumia Labeling CA	330000000429788A54CD510EE20000000000004	36FFEEE9AC26B7F3EC154B65350A565FADAC370E6BFCDD53AEBD2940A96301A0	2/4/2015	2/4/2030
J2ME Trusted Third Party Domain CA 2015	33000000070A516A24D7EEBC5F0000000000007	E8759CED3BA0520502896809571B5AE8DB981CBE5EF27D7A78F8C04F81D859E1	9/10/2015	9/10/2030
Microsoft Overlake Celestial Peak EOC CA 01	3300000000C646E90249277395000000000000C	47A97C9899659DD6FC5CDDA5F910C00C5C80FAB0813388E88ABA71757F748FE7	12/19/2019	12/19/2031
Microsoft IoT Hardware AOC CA 01	3300000000F62B9C2A0DA9651D6000000000000F	50E68DF1565FAC8C29C9B5B99F6F674EE65FE06B12C19EC49BB2114AA6CF07FC	7/23/2020	7/23/2032
Microsoft IoT Hardware EOC CA 02	330000001265D5505F21157B5A00000000000012	3A1AB5E1682341C0C1149F420F7C6DBB811DFB7A12ED760BB85122420E60052	7/23/2020	7/23/2032



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft IoT Hardware EOC CA 01	3300000011431 52E2213235FA8 000000000011	E862464637686C70F51 D78506FA970D6C85A9 DDEA822C5F320B04CE E2F782E31	7/23/2020	7/23/2032
Microsoft Overlake Celestial Peak AOC CA 01	330000000D69F 5D191E9E1D0B A00000000000D	61CCD5572CE0C9C5A5 B7BE0837B1B5EAC3BD 5AE79874A38BDFB796 AD8E45B96D	1/17/2020	1/17/2032
Microsoft Corsica EOC CA 02	3300000009CE3 55CE9A935E6B D000000000009	387B537E349787D3C0 C11D2DEF2AF8942FB5 20A473D6099AB97A8B A1CA2777C7	11/13/2019	11/13/2031
Microsoft Overlake Celestial Peak EOC CA 02	330000000B5FF A766BAB0A077 100000000000B	ECCB8003956FCD3248 E66132CBD0153FB5DF 0EA1FEE10991F0E6549 B5EC17A6E	12/19/2019	12/19/2031
Microsoft Cerberus AOC CA 01	330000000440D B5FB05066B53 D000000000004	E50EA06004720D39C9 B9DA993546FAE0755D B7C5ED8DA18B8F5CD3 A9F6542AEA	11/13/2019	11/13/2031
Microsoft Corsica EOC CA 01	33000000078CF DEF60A7D1AA3 3000000000007	10D7FFFC33013B74BA FAF8A02847909F6D14 4F643AF3B135D0974D 9A09FA5ACD	11/13/2019	11/13/2031
Microsoft Corsica AOC CA 02	3300000005E09 B35452D0997B B000000000005	2C4BD0808A66F2AB90 8C151AD5824FAB37C7 3E77997397F54AFB69B 706CF7D27	11/13/2019	11/13/2031
Microsoft Corsica AOC CA 01	3300000003CFA 8F2C9B7EE147 D000000000003	74B885A77CC6402EFB A497588160AC17E148 010EBDB1866AAF5418 C920E724FA	11/13/2019	11/13/2031
Microsoft Cerberus EOC CA 01	330000000871E D9045C7F74E9E 0000000000008	B610E3630261CBF06A E85E2F2F6A28ADA804 65BED23F31EEEA6876 6D7216B2A0	11/13/2019	11/13/2031
Microsoft Overlake Celestial Peak AOC CA 02	330000000E851 6EB57875BC61 C00000000000E	854BEEC86E41081F3B5 CB06FAD9E64BAE5DB0 B58E9AD906AF7B5BD7 D3B53737E	1/17/2020	1/17/2032
Microsoft IoT Hardware AOC CA 02	3300000010824 961ABA2C0FC1 E000000000010	BAB009727481D5A102 A0F9D92AFBE35A154B 3542CA2373142EA8B3 91D26FD964	7/23/2020	7/23/2032
Microsoft Cerberus AOC CA 02	3300000006F64 DA3EB7F568FA 8000000000006	62611B1020D98788619 21646DE463AFFDA7D1 CE9DDFD950D04FDC59 3A58CC656	11/13/2019	11/13/2031



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Microsoft Cerberus EOC CA 02	330000000A5C6 53934684C0B82 00000000000A	8AFE1152EB160B6001 A38FAB330F7C692068 F87A521AD3D81ED827 5653B6B8B5	11/13/2019	11/13/2031
Microsoft ECC Development PCA 2018	3300000002B51 E7CF8E219FF99 000000000002	E37D50B7302A77D6A7 BB2DC22525B9B732E8 C10679C5B775BF3049 D46FE8ECF3	3/1/2018	3/1/2033
Microsoft Secure Launch ECC PCA 2017	3300000002681 0C8C754BF2547 000000000002	8BCF976F5831DB3864 72F4FEB571733F852D8 84CBFC6DFB12C2FC82 CC1D93F59	11/15/2017	11/15/2037
Microsoft ECC Surface Accessory Firmware CA 2018	33000000062B0 7264B2097D6AF 000000000006	FE56992B8657B72DA2 09FA002CF5B35098791 09BB871ED44CE920FD 29CF71FBB	6/14/2018	6/14/2033
Microsoft ECC Third Party PCA 2019	330000000740A 786F67631EEBF 000000000007	9FF911EECE932777AE D13656033E8CBFC1A7 F9987A4FE4CC11C841 FDE9F9E6EF	1/30/2019	1/30/2039
Microsoft Surface Silicon Partner PCA 2018	330000000456B 30063CBFB9177 000000000004	9B14BDBCFF12A71BC4 07B1FD7C37C36E2778 B91E9C8C902DDE8D1E D6E174EA5F	3/8/2018	3/8/2033
Surface Factory CA 2018	3300000004DD DEC6CCBB6AAB DF00000000000 4	4DD84211DCB0C8770E FC02F0168B39BD321E 69644DF853ED74CF17 607ABC3566	7/12/2018	3/7/2033
Windows Hello Secure Devices PCA 2018	33000000036CC FEDE2447019BF 000000000003	DBFC7BE1149785B5FD 98A995B83184F51DE3 9E9B277BE287082F575 14007C9C1	1/25/2018	1/25/2033
Windows Hello 5CF190F8 CA 2018	330000000ACF1 94279F1555CA2 00000000000A	E605D51BFB46BAD1B4 2F45A27F36FE2E6681E 230BCAA6147E3B5783 40BD8998E	10/4/2018	10/4/2028
Windows Hello B5A8CEAC CA 2018	33000000089B6 77FEFA96B352F 000000000008	72EA4166FE93199D777 84B728BAAAB03F8522 23940C1ADDE99B2D7C C9E8C0C95	1/31/2018	1/31/2028
Windows Hello 1767C8B4 CA 2018	3300000009C49 34D6D04A9981 1000000000009	A67A51F19E5E90D4A8 CDD0641A02C36ADDA1 2BBCDCDFD374C64ADE 7EB5073663	10/4/2018	10/4/2028
Windows Hello 19B92965 CA 2018	3300000007E89 D61624D460F95 000000000007	0E304378D8493AD6B5 A1E20975F24226C3D4 9C7A141413E1B972859 3F9FCC016	1/31/2018	1/31/2028



Intermediate CAs				
Subject Common Name	Serial Number	SHA2 Thumbprint	Valid From	Valid To
Windows Hello 7BB5EEFC CA 2018	33000000063F9C4116310EDE000000000006	5E2065CFD8964873B655E32B4D2E3AF7E1853ED4668A36011BB2359E9CF72964	1/31/2018	1/31/2028
Microsoft Overlake STOS Signing PCA 2020	3300000004AC C2BD2910A9E2 C1000000000004	99F775C4B550EB5D645FBBE7394B53A2F7F5DB981D23DD1DC9CB9D152117684F	7/30/2020	7/30/2040
Microsoft Overlake Policy Signing PCA 2020	3300000005167E95DE5F29C339000000000005	304007D9BF469978D727F046C6A67966EC03A6651ACF7B50EDD2DAFDDDC959D5	7/30/2020	7/30/2040
Microsoft Overlake OS Signing PCA 2019	3300000003073B3EB29D7407A2000000000003	7FD7ECE8A7C30B084AD5C2FD5B6042E2725EF966AAA6094EB3128A6CA6BDBC28	9/18/2019	9/18/2039
Microsoft Overlake Agent Signing PCA 2019	3300000002634DA608FF70FBF6000000000002	8B655BDD8CE27BDBF8423AA2573324EF13D38BAA6F489E2770DAE1956E325B9	9/18/2019	9/18/2039
Microsoft Development PCA 2014	3300000003C6F9B4C3AEBE594B000000000003	DBC90D98707DA5F9A7B5F7A0C7AEF1825611C250E435A16093C7E84BB75F98A4	5/28/2014	5/28/2029
Microsoft Mobile Development PCA 2014	330000000466EA9138AD65677B000000000004	1B07CB0F47425316288A57388FE75C5E361817B03D75D9C4472A379913327FE9	9/16/2014	9/16/2029
Microsoft Office Service Infrastructure China Issuing CA 2012	330000000399D180E011A0E921000000000003	836375F4E806CEC201847E800775DF8623138B7E53CF5DA331B89886CA309D7B	11/7/2012	11/7/2022
Microsoft Office Service Infrastructure China Issuing CA 2012	33000000056F56CEB0D9743A20000000000005	BD759C39DF5CA3954A6D007075B9F8A5168D4C090CF2FCE27E45AC045DCFE6EF	11/7/2012	11/7/2022
Microsoft Office Service Infrastructure China TIP Issuing CA2012	330000000399D180E011A0E921000000000003	836375F4E806CEC201847E800775DF8623138B7E53CF5DA331B89886CA309D7B	11/7/2012	11/7/2022
Microsoft Office Service Infrastructure China TIP Issuing CA2012	33000000056F56CEB0D9743A20000000000005	BD759C39DF5CA3954A6D007075B9F8A5168D4C090CF2FCE27E45AC045DCFE6EF	11/7/2012	11/7/2022