BDO

Tel: 314-889-1100
Fax: 314-889-1101
www.bdo.com

101 S Hanley Rd, #800
St. Louis, MO 63105

REPORT OF THE INDEPENDENT ACCOUNTANT

To the Management of Microsoft Public Key Infrastructure ("PKI") Services, a service of Microsoft Corporation:

Scope

We have examined Microsoft PKI Services management's 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 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, 2021 to April 30, 2022 based on the WebTrust Principles and Criteria for Certification Authorities v2.2.1.

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 v2.2.1.

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.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements relating to the engagement.

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

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls. For example, because of their nature, controls may not prevent, or detect unauthorised access to systems and information, or failure to comply with internal and external policies or requirements. Also, the projection to the future of any conclusions based on our findings is subject to the risk that controls may become ineffective.

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 Matters

Without modifying our opinion, we noted the following other matters during our procedures:

	Matter Topic	Matter Description
1	Certificate Content	Microsoft disclosed in Mozilla Bug 1711147 that eight (8) of its intermediate CAs were missing the certificatePolicies extension.
		Microsoft disclosed in Mozilla Bug 1718991 that four (4) of its intermediate CAs had malformed key usage extensions.
2	Certificate Status	Microsoft disclosed in Mozilla Bug 1740585 that four (4) revocation entries on a CRL were removed before the expiry date of the revoked certificates.

While the Microsoft PKI Services assertion notes all issues disclosed on Bugzilla during the engagement period, we have only noted those instances relevant to the CAs enumerated in Attachment B and applicable to the WebTrust Principles and Criteria for Certification Authorities v2.2.1.

Use of the WebTrust Seal

Microsoft PKI Services' use of the WebTrust for Certification Authorities Seal constitutes a symbolic representation of the contents of this report and it is not intended, nor should it be construed, to update this report or provide any additional assurance.

BDO USA, LLP

June 17, 2022

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

Certificate Policy

Policy Name	Policy Version	Policy Date
Microsoft PKI Services Certificate Policy	Version 3.1.4	February 15, 2021
Microsoft PKI Services Certificate Policy	Version 3.1.5	February 15, 2022

Certification Practice Statement

Policy Name	Policy Version	Policy Date
Microsoft PKI Services Certification Practice Statement	Version 3.1.9	March 30, 2021
Microsoft PKI Services Certification Practice Statement	Version 3.2.0	July 12, 2021
Microsoft PKI Services Certification Practice Statement	Version 3.2.1	January 19, 2022

ATTACHMENT B – IN-SCOPE CA CERTIFICATES

Root CA Certificates				
Common Name	**SHA2 Thumbprint**	**SPKI Hash**	**Valid From**	**Valid To**
Microsoft ECC Root Certificate Authority 2017	FEA1884AB3AEA6D0DBEDBE4B9CD9FEC8655116300A86A856488FC488BB4B44D2	35F53CE1264611E03340FE37E1EC7D4CC986C5613DCA70FD04AA44545F2DAF28	7/26/2017	7/26/2042
	358DF39D764AF9E1B766E9C972DF352EE15CFAC227AF6AD1D70E8E4A6EDCBA02		12/18/2019	7/18/2042
Microsoft RSA Root Certificate Authority 2017	ECDD47B5ACBFA328211E1BFF54ADEAC95E6991E3C1D50E27B527E903208040A1	B2F7298B52BF2C3CAC4DDFE72DE4D682AC58957595982F2B62301AF597C699C5	7/26/2017	7/26/2042
	C741F70F4B2A8D88BF2E71C14122EF53EF10EBA0CFA5E64CFA20F418853073E0		12/18/2019	7/18/2042

Cross-Signed CA Certificates

Common Name	SHA2 Thumbprint	SPKI Hash	Valid From	Valid To
Microsoft Azure ECC TLS Issuing CA 01	949D6B4B761CA134AD3E7A8571186F580EE887F2C6B568B5140F4157F98D68DD	3993B1F49242DC9B120D28C55F6884037FC40FA80285ADCBD59ACE791368CB1F	8/12/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 02	9C64A9A43E990E98FBCE8317B2D4C1C07FFE6E032DA8BB6D60A696E2FF038F1F	3A175427EC2BA4F46DA57E77B64CAA54B290A0DA5D0825AF7BC31041A4034360	8/12/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 05	003F71DC4820216575FC5AACFE3B1AEB76F72AEA5B8E8FCEFC80B9F517A4A612	934F4CCE6C2244F90F9A4A60994B69ACC93FB802D255E74D2ED7CE06408CBD71	8/12/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 06	2975BAB51D00D862D0E16EEDEF8306A759C65CD4B9F00DAF50ECDFCB4EC396E4	C818E7ADC99C529DA7CA50D15A742F48F46CA66866D5FFDF3AE2ABB0D89A49D0	8/12/2020	6/27/2024
Microsoft Azure TLS Issuing CA 01	24C7299864E0A2A6964F551C0E8DF2461532FA8C48E4DBBB6080716691F190E5	347C2EB1B0BBC3CE382734E6BC8448A3C34BEC3E92B484CAF69873160B498B4C	7/29/2020	6/27/2024
Microsoft Azure TLS Issuing CA 02	15A98761EBE011554DA3A46D206B0812CB2EB69AE87AAA11A6DD4CB84ED5142A	CC0C1FC76885710E6F30E09CF6FB7E3172DD2E5D3C12AB8DB0E5A00C5D213B0F	7/29/2020	6/27/2024
Microsoft Azure TLS Issuing CA 05	D6831BA43607F5AC19778D627531562AF55145F191CAB5EFAFA0E0005442B302	E22E21D2337D3513ABD7128923E4D0D50FD921F5233CC5ED99652C0D1DCF8E2C	7/29/2020	6/27/2024
Microsoft Azure TLS Issuing CA 06	48FF8B494668C752304B48BFE818758987DEF6582E5F09B921F4B60BB3D6A8DD	5A5F0C158FBDCE28C61BC4201070802B97E103EC9D3D9C5A2D038576210FCF75	7/29/2020	6/27/2024

Intermediate CA Certificates[1]				
Common Name	**SHA2 Thumbprint**	**SPKI Hash**	**Valid From**	**Valid To**
Microsoft Azure ECC TLS Issuing CA 01	2CAEFBB55E70DF5A8985FE9BC10DD56A40C3DEDAB3DA1530A29682015C5B7C66	3993B1F49242DC9B 120D28C55F688403 7FC40FA80285ADCB D59ACE791368CB1F	1/17/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 02	4EC439672A443401A66E27947CC3B5897F132B667F712CC1A37018A3CC85B16A	3A175427EC2BA4F4 6DA57E77B64CAA5 4B290A0DA5D0825AF 7BC31041A4034360	1/17/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 05	624D5576A652B2130768BFE84B965EEFFFD91603D25CD5F7155A7DC2789DAC38	934F4CCE6C2244F9 0F9A4A60994B69AC C93FB802D255E74D 2ED7CE06408CBD71	1/17/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 06	151A3E5969C6616EB637A8722B174CFD95387AACE78D57C3BD23F0CB3008186A	C818E7ADC99C529D A7CA50D15A742F48 F46CA66866D5FFDF 3AE2ABB0D89A49D0	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 01	0437AB2EC2C2B4890296C135034B21DB146434B8317EE703AA8AA943C5EA51AE	347C2EB1B0BBC3CE 382734E6BC8448A3 C34BEC3E92B484CA F69873160B498B4C	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 02	D39CE39FF6F449D4F3391EE2004D705EC22F99CFFCA40A88F85DB26454ADDBD1	CC0C1FC76885710E 6F30E09CF6FB7E317 2DD2E5D3C12AB8D B0E5A00C5D213B0F	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 05	AB3203B3EA2017D509726A1D82293EFFCB8C42CEB52C9AF1C0EEE96B5C02BCBA	E22E21D2337D3513 ABD7128923E4D0D5 0FD921F5233CC5ED 99652C0D1DCF8E2C	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 06	7DF4D3EF45798F8C4384FC702BA52A44CE7BD6298B141628D4ABABC7678F6467	5A5F0C158FBDCE28 C61BC4201070802B9 7E103EC9D3D9C5A 2D038576210FCF75	1/17/2020	6/27/2024

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[1] The Intermediate CA certificates in this table issued on 3/11/2021 were all revoked on 5/6/2021.

Intermediate CA Certificates[1]				
Common Name	**SHA2 Thumbprint**	**SPKI Hash**	**Valid From**	**Valid To**
Microsoft ECC TLS Issuing AOC CA 01	5C64B1731A8138DEA7D11C9AE8622891F945EBA46825E7ABFE4754F0A6011AF8	A9DF77A5BFB79FA34CDB975D964A30D9FE7FC4E670BD39BF1B8C2605E843DB54	6/24/2021	6/24/2026
	9D8BB150C07B81C25799B7945978B036E4B49C593C882BE379A58D08E1C25074		3/11/2021	3/11/2026
Microsoft ECC TLS Issuing AOC CA 02	808CA1ABBFE2FF1A9AC71887DDA71FF6FCA6C3B5224827F547515A4D9F7AF209	85FA29EB740D90CE77EDDBE3AB6C66A5DE3FC8BA94D6B2955FB7D33B04231601	6/24/2021	6/24/2026
	12FB2F53AC2D09E62128B00487E8B77D6E4A0F459DD8744D009393BD0DF697B5		3/11/2021	3/11/2026
Microsoft ECC TLS Issuing EOC CA 01	2769381532D96183ED39BDC4E323F3C520FBE6ACF3BDA30222239DDFC44C8380	EDE152DA0C19D6C3BB3168D11E40901919646BB6998CD5E7D0FBE6537FFF42EF	6/24/2021	6/24/2026
	568E4046F384D0FDD9D06A8029E6BF38EED8904C1E0B44F99DA607F68672093E		3/11/2021	3/11/2026
Microsoft ECC TLS Issuing EOC CA 02	659C0F902D6059FBD1FCA528839F20604B80C74364E58F9D48A2291F813ED82D	21CD47E3200B2D7F13567DF9E698EC21ACAC77A8F4A2A1173F4EAB23B2048967	6/24/2021	6/24/2026
	2DEEA0712931179BF1EF721070A30A1AB997F64C683EAB88DCE258D040D9AD25		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing AOC CA 01	481E582A206A7D7040CCDA17CF25D349785A2AB94ED7552AB254DCD38B032EC0	7484F2F1618D35F6F239C05BAD30B8B7AD93C7024D4000D387141417EE3DDBF4	6/24/2021	6/24/2026
	13E295A5A6ECAF8391126E752B131B316675D187266BCF537892F839454B9480		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing AOC CA 02	D77C45C1587731C4632C19D6F3C9FE832626615C879EA053664A4B26EB2293EC	F19A176BC779C77609427F441B995F14CAB9A19D87CDDD92725E4997CB0878BC	6/24/2021	6/24/2026
	2AF3B34A5FD0EDC546E2E714208B6C380A5D5C553EDCA3A306A9E442C2389AAE		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing EOC CA 01	5EA3857EACD4C7CA5ACBCA9C4627E26F3072038D191A29D4C3F9464B2E5F00C6	1F1D8E7685CE8255088F791BFD3FB927F50AC1007091B5BBC3347EFBC5D9A80C	6/24/2021	6/24/2026
	E204F2682F5F630E360256ABD722DFF475432053128FC4274649F65D14EE1A36		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing EOC CA 02	4D55BC4ABEB7D37FAB57E573ACCE83133E36212C864E003FBCB30B5FC248B011	89E1EF9BD893880FCA4C2D0BA71EC93DAF6C0AC14D5A9996F3E16F9763995076	6/24/2021	6/24/2026
	C97634113A97DFD13D516B9B7FA1B886635C725BDF70BC0A7891DF8E3FF0F91C		3/11/2021	3/11/2026

Microsoft

MICROSOFT PUBLIC KEY INFRASTRUTURE 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, controls placed into operation 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, 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 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:

Microsoft

- o logical and physical access to CA systems and data is restricted to authorized individuals;
- o the continuity of key and certificate management operations is maintained; and
- o CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity

throughout the period May 1, 2021 to April 30, 2022, based on the WebTrust Principles and Criteria for Certification Authorities v2.2.1, 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

Microsoft

- Certificate Distribution
- Certificate Revocation
- Certificate Validation

Subordinate CA and Cross Certificate Lifecycle Management Controls
- Subordinate CA Certificate and Cross Certificate Lifecycle Management

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 assertion did not extend to controls that would address those criteria.

Microsoft has disclosed the following matters publicly on Mozilla Bugzilla's platform. These matters were included below due to being open during the period May 1, 2021 through April 30, 2022.

Bug ID	Summary	Opened	Closed	Resolution
1693930	Microsoft PKI Services: Policy Documentation, Failure to update Subscriber Certificate Max Validity Period	2/19/2021	7/16/2021	Fixed
1700809	Microsoft PKI Services: Failure to disclose Unconstrained Intermediate within 7 Days	3/24/2021	7/4/2021	Fixed
1705419	Microsoft: Underscore in SAN	4/15/2021	9/20/2021	Fixed
1706860	Microsoft PKI Services: Certificate Mis-Issuance, DNSName is not FQDN, Preferred Name Syntax	4/21/2021	6/7/2021	Fixed
1711147	Microsoft PKI Services, Malformed ICAs (missing certificate policy extensions)	5/13/2021	2/9/2022	Fixed
1718991	Microsoft PKI Services, Malformed ICAs (Key Usage Malformed)	7/2/2021	8/6/2021	Fixed
1724530	Microsoft PKI Services: Overdue Audit Reports 2021	8/6/2021	10/3/2021	Fixed
1740585	Microsoft: Unrevoked 4 intermediate certificates	11/10/2021	12/6/2021	Fixed
1718991	Microsoft PKI Services: Failure to disclose Revocation of Intermediate CAs within 7 Days	11/19/2021	12/6/2021	Fixed

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Raza Syed
DocuSigned By: Raza Syed

6/17/2022

_____
Raza Syed
Distinguished Engineer, Product Release & Security Services

Microsoft

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

Certificate Policy

Policy Name	Policy Version	Policy Date
Microsoft PKI Services Certificate Policy	Version 3.1.4	February 15, 2021
Microsoft PKI Services Certificate Policy	Version 3.1.5	February 15, 2022

Certification Practice Statement

Policy Name	Policy Version	Policy Date
Microsoft PKI Services Certification Practice Statement	Version 3.1.9	March 30, 2021
Microsoft PKI Services Certification Practice Statement	Version 3.2.0	July 12, 2021
Microsoft PKI Services Certification Practice Statement	Version 3.2.1	January 19, 2022

Microsoft

ATTACHMENT B – IN-SCOPE CA CERTIFICATES

Root CA Certificates				
Common Name	**SHA2 Thumbprint**	**SPKI Hash**	**Valid From**	**Valid To**
Microsoft ECC Root Certificate Authority 2017	FEA1884AB3AEA6D0DBEDBE4B9CD9FEC8655116300A86A856488FC488BB4B44D2	35F53CE1264611E03340FE37E1EC7D4CC986C5613DCA70FD04AA44545F2DAF28	7/26/2017	7/26/2042
	358DF39D764AF9E1B766E9C972DF352EE15CFAC227AF6AD1D70E8E4A6EDCBA02		12/18/2019	7/18/2042
Microsoft RSA Root Certificate Authority 2017	ECDD47B5ACBFA328211E1BFF54ADEAC95E6991E3C1D50E27B527E903208040A1	B2F7298B52BF2C3CAC4DDFE72DE4D682AC58957595982F2B62301AF597C699C5	7/26/2017	7/26/2042
	C741F70F4B2A8D88BF2E71C14122EF53EF10EBA0CFA5E64CFA20F418853073E0		12/18/2019	7/18/2042

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 706 7329
www.microsoft.com

Microsoft

Cross-Signed CA Certificates				
Common Name	**SHA2 Thumbprint**	**SPKI Hash**	**Valid From**	**Valid To**
Microsoft Azure ECC TLS Issuing CA 01	949D6B4B761CA134AD3E7A8571186F580EE887F2C6B568B5140F4157F98D68DD	3993B1F49242DC9B120D28C55F6884037FC40FA80285ADCBD59ACE791368CB1F	8/12/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 02	9C64A9A43E990E98FBCE8317B2D4C1C07FFE6E032DA8BB6D60A696E2FF038F1F	3A175427EC2BA4F46DA57E77B64CAA54B290A0DA5D0825AF7BC31041A4034360	8/12/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 05	003F71DC4820216575FC5AACFE3B1AEB76F72AEA5B8E8FCEFC80B9F517A4A612	934F4CCE6C2244F90F9A4A60994B69ACC93FB802D255E74D2ED7CE06408CBD71	8/12/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 06	2975BAB51D00D862D0E16EEDEF8306A759C65CD4B9F00DAF50ECDFCB4EC396E4	C818E7ADC99C529DA7CA50D15A742F48F46CA66866D5FFDF3AE2ABB0D89A49D0	8/12/2020	6/27/2024
Microsoft Azure TLS Issuing CA 01	24C7299864E0A2A6964F551C0E8DF2461532FA8C48E4DBBB6080716691F190E5	347C2EB1B0BBC3CE382734E6BC8448A3C34BEC3E92B484CAF69873160B498B4C	7/29/2020	6/27/2024
Microsoft Azure TLS Issuing CA 02	15A98761EBE011554DA3A46D206B0812CB2EB69AE87AAA11A6DD4CB84ED5142A	CC0C1FC76885710E6F30E09CF6FB7E3172DD2E5D3C12AB8DB0E5A00C5D213B0F	7/29/2020	6/27/2024
Microsoft Azure TLS Issuing CA 05	D6831BA43607F5AC19778D627531562AF55145F191CAB5EFAFA0E0005442B302	E22E21D2337D3513ABD7128923E4D0D50FD921F5233CC5ED99652C0D1DCF8E2C	7/29/2020	6/27/2024
Microsoft Azure TLS Issuing CA 06	48FF8B494668C752304B48BFE818758987DEF6582E5F09B921F4B60BB3D6A8DD	5A5F0C158FBDCE28C61BC4201070802B97E103EC9D3D9C5A2D038576210FCF75	7/29/2020	6/27/2024

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 706 7329
www.microsoft.com

Microsoft

Intermediate CA Certificates[1]				
Common Name	**SHA2 Thumbprint**	**SPKI Hash**	**Valid From**	**Valid To**
Microsoft Azure ECC TLS Issuing CA 01	2CAEFBB55E70DF5A8985FE9BC10DD56A40C3DEDAB3DA1530A29682015C5B7C66	3993B1F49242DC9B120D28C55F6884037FC40FA80285ADCBD59ACE791368CB1F	1/17/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 02	4EC439672A443401A66E27947CC3B5897F132B667F712CC1A37018A3CC85B16A	3A175427EC2BA4F46DA57E77B64CAA54B290A0DA5D0825AF7BC31041A4034360	1/17/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 05	624D5576A652B2130768BFE84B965EEFFFD91603D25CD5F7155A7DC2789DAC38	934F4CCE6C2244F90F9A4A60994B69ACC93FB802D255E74D2ED7CE06408CBD71	1/17/2020	6/27/2024
Microsoft Azure ECC TLS Issuing CA 06	151A3E5969C6616EB637A8722B174CFD95387AACE78D57C3BD23F0CB3008186A	C818E7ADC99C529DA7CA50D15A742F48F46CA66866D5FFDF3AE2ABB0D89A49D0	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 01	0437AB2EC2C2B4890296C135034B21DB146434B8317EE703AA8AA943C5EA51AE	347C2EB1B0BBC3CE382734E6BC8448A3C34BEC3E92B484CAF69873160B498B4C	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 02	D39CE39FF6F449D4F3391EE2004D705EC22F99CFFCA40A88F85DB26454ADDBD1	CC0C1FC76885710E6F30E09CF6FB7E3172DD2E5D3C12AB8DB0E5A00C5D213B0F	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 05	AB3203B3EA2017D509726A1D82293EFFCB8C42CEB52C9AF1C0EEE96B5C02BCBA	E22E21D2337D3513ABD7128923E4D0D50FD921F5233CC5ED99652C0D1DCF8E2C	1/17/2020	6/27/2024
Microsoft Azure TLS Issuing CA 06	7DF4D3EF45798F8C4384FC702BA52A44CE7BD6298B141628D4ABABC7678F6467	5A5F0C158FBDCE28C61BC4201070802B97E103EC9D3D9C5A2D038576210FCF75	1/17/2020	6/27/2024

[1] The Intermediate CA certificates in this table issued on 3/11/2021 were all revoked on 5/6/2021.

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Tel 425 882 8080
Fax 425 706 7329
www.microsoft.com

Microsoft

Intermediate CA Certificates[1]				
Common Name	**SHA2 Thumbprint**	**SPKI Hash**	**Valid From**	**Valid To**
Microsoft ECC TLS Issuing AOC CA 01	5C64B1731A8138DEA7D11C9AE8622891F945EBA46825E7ABFE4754F0A6011AF8	A9DF77A5BFB79FA34CDB975D964A30D9FE7FC4E670BD39BF1B8C2605E843DB54	6/24/2021	6/24/2026
	9D8BB150C07B81C25799B7945978B036E4B49C593C882BE379A58D08E1C25074		3/11/2021	3/11/2026
Microsoft ECC TLS Issuing AOC CA 02	808CA1ABBFE2FF1A9AC71887DDA71FF6FCA6C3B5224827F547515A4D9F7AF209	85FA29EB740D90CE77EDDBE3AB6C66A5DE3FC8BA94D6B2955FB7D33B04231601	6/24/2021	6/24/2026
	12FB2F53AC2D09E62128B00487E8B77D6E4A0F459DD8744D009393BD0DF697B5		3/11/2021	3/11/2026
Microsoft ECC TLS Issuing EOC CA 01	2769381532D96183ED39BDC4E323F3C520FBE6ACF3BDA30222239DDFC44C8380	EDE152DA0C19D6C3BB3168D11E40901919646BB6998CD5E7D0FBE6537FFF42EF	6/24/2021	6/24/2026
	568E4046F384D0FDD9D06A8029E6BF38EED8904C1E0B44F99DA607F68672093E		3/11/2021	3/11/2026
Microsoft ECC TLS Issuing EOC CA 02	659C0F902D6059FBD1FCA528839F20604B80C74364E58F9D48A2291F813ED82D	21CD47E3200B2D7F13567DF9E698EC21ACAC77A8F4A2A1173F4EAB23B2048967	6/24/2021	6/24/2026
	2DEEA0712931179BF1EF721070A30A1AB997F64C683EAB88DCE258D040D9AD25		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing AOC CA 01	481E582A206A7D7040CCDA17CF25D349785A2AB94ED7552AB254DCD38B032EC0	7484F2F1618D35F6F239C05BAD30B8B7AD93C7024D4000D387141417EE3DDBF4	6/24/2021	6/24/2026
	13E295A5A6ECAF8391126E752B131B316675D187266BCF537892F839454B9480		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing AOC CA 02	D77C45C1587731C4632C19D6F3C9FE832626615C879EA053664A4B26EB2293EC	F19A176BC779C77609427F441B995F14CAB9A19D87CDDD92725E4997CB0878BC	6/24/2021	6/24/2026
	2AF3B34A5FD0EDC546E2E714208B6C380A5D5C553EDCA3A306A9E442C2389AAE		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing EOC CA 01	5EA3857EACD4C7CA5ACBCA9C4627E26F3072038D191A29D4C3F9464B2E5F00C6	1F1D8E7685CE8255088F791BFD3FB927F50AC1007091B5BBC3347EFBC5D9A80C	6/24/2021	6/24/2026
	E204F2682F5F630E360256ABD722DFF475432053128FC4274649F65D14EE1A36		3/11/2021	3/11/2026
Microsoft RSA TLS Issuing EOC CA 02	4D55BC4ABEB7D37FAB57E573ACCE83133E36212C864E003FBCB30B5FC248B011	89E1EF9BD893880FCA4C2D0BA71EC93DAF6C0AC14D5A9996F3E16F9763995076	6/24/2021	6/24/2026
	C97634113A97DFD13D516B9B7FA1B886635C725BDF70BC0A7891DF8E3FF0F91C		3/11/2021	3/11/2026