ONVIF Profile Feature Overview v2.3

This table contains a summary of the features of the currently released ONVIF profiles, for more details or in case of lack of clarity please refer to the Profile Specifications.

- ONVIF Profile T Specification [September 2018]
- ONVIF Profile A Specification [June 2017]
- ONVIF Profile Q Specification [July 2016 / July 2018 v1.1]
- ONVIF Profile G specification [June 2014]
- ONVIF Profile C Specification [December 2013]
- ONVIF Profile S Specification [December 2011 / March 2016 v1.1.1 / July 2018 v1.2]

Function Lists use the following abbreviations:

M: Mandatory
C: Conditional
O: Optional

Features		Profiles											
		G		Q		S		T		C		A	
		Device	Client	Device	Client	Device	Client	Device	Client	Device	Client	Device	Client
General													
System Settings		M	C	M	C	M	C	M	C	M	C	M	C
User Authentication	WS-Username Token					M	M						
	Digest Authentication	M	M	M	M	O	M	M	M	M	M	M	M
User Handling		M	C	M	M	M	C	M	C	M	C	M	M
Query Services and Capabilities		M	M	M	M	M	M	M	M	M	M	M	M
Device Discovery		M	C	M	M	M	C	M	M	M	C	M	M
Default Access Policy				M									
Network Configuration		M	C	M	C	M	C	M	M	M	M	M	C
Zero configuration				C	C	C	C						
Firmware Upgrade				C	C								
Backup and Restore				C	C								
TLS Configuration				C	C								
IP Address Filtering						C	C					C	C
NTP						C	C	C	C			M	C
Automatic IP Assignment				C	C								
Media Profile Configuration						M	C	M	C				
Media Transport	RTP/UDP	M	M			M	M^1	M	M^1				
	RTP/RTSP/HTTP/TCP	M	M			M		M					
	RTP/RTSP/HTTPS/TCP	C	C							C	C		
	RTP/RTSP/TCP/WebSocket									C	O		
	RTP/UDP Multicast					C	C	M	C				
Video													
Video Streaming	MJPEG	O	M			M	M						
	MPEG4	O	M			C	C						
	H.264	O	M			C	C	M^2	M				
	H.265								M				
Video Encoder Configuration						M	M	M	M				
Video Source Configuration						M	C	M	C				

[1] Client must support at least one of UDP and HTTP

[2] Device must support at least one of H.264 and H.265

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Features		G Device	G Client	Q Device	Q Client	S Device	S Client	T Device	T Client	C Device	C Client	A Device	A Client
Video													
Media Profile for Streaming Ready out-of-the-box						M	C	M	M				
Video Source Mode								C	C				
Video Streaming	RTSP/RTP					M	M	M	M				
Imaging Settings								M	M				
Recording Search		M	M										
Replay Control		M	M										
Recording Control		M	C										
Recording Control	Using an on-board media source	C	C										
	Using a Receiver as Source	C	C										
Recording Control - Dynamic Recording	Recording	C	C										
Recording Control – Dynamic Tracks	Tracks	C	C										
Recording Source Configuration		M	C										
Events													
Event Handling	Pull-point	M	C	M	M	M	M³	M	M	M	M	M	M
	WS-Base-notification					M							
Standard Monitoring Events for Devices				M	C								
Media Profile Configuration Events								M	O				
Access Control Events	Door									M	M		
External Authorization Events										C	C		
Duress Events										C	C		
Access Profile Event	Changes on Profile											M	M
Credential Event	Changes on Credential											M	M
Schedule Event	Changes on schedule											M	M
Special Days Schedule Event												C	C
Reset Antipassback Violation Event												C	C
Stored Events	Seek									C	C	C	C
Motion Alarm Events								M	M				
Motion Region Detector Events								C	C				
Tampering Event								M	M				

³ Client must implement one or both from Pull Point and Base-Notification to support Event Handling

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Features		G Device	G Client	Q Device	Q Client	S Device	S Client	T Device	T Client	C Device	C Client	A Device	A Client
Audio													
Audio Streaming	G.711					C	C	C[4]	C[4]				
	AAC					C	C						
	G726					C	C						
Audio Output Streaming	G.711							C	C				
	AAC							C	C				
Audio Encoder Configuration						C	C	C	C				
PTZ													
PTZ Move	Absolute					C	C	C	M				
	Continuous					C	C	C	M				
	Relative					C	C						
PTZ Presets						C	C	C	C				
PTZ – Home Position						C	C	C	C				
PTZ Configuration						C	C	C	C				
Additional													
Relay Outputs						C	C	C	C				
Auxiliary commands						C	C	C	C				
Focus Control								C	C				
Digital Inputs								C	C				
Configuration of On-Screen Display (OSD)								M	C				
JPEG Snapshot								M	O				
Motion Region Detector Configuration								C	C				
Metadata Configuration						M	C	M	C				
Metadata Streaming								M	C				

[4] If supported, Device/ client must support at least one of G.711 and AAC

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Features		G Device	G Client	Q Device	Q Client	S Device	S Client	T Device	T Client	C Device	C Client	A Device	A Client
Recording													
Recording Search		M	M										
Replay Control		M	M										
Recording Control	Using an on-board media source	C	C										
	Using a Receiver as Source	C	C										
	Dynamic Tracks	C	C										
Recording Source Configuration		M	C										
Access													
Access Profiles												M	M
Credential												M	M
Schedule												M	M
System component information	Access points									M	M		
	Doors									M	M		
	Areas									M	M		
Component state	Access points									M	M		
	Doors									M	M		
	Areas									M	M		
Door control										M	M		
Access control decisions										M	M		
Configuration change notification	Access									C	C		
	Doors									C	C		
	Areas									C	C		
Access point control										C	C		
Reset Anti-Pass back Violation												C	C
Special Days Schedule												C	C
Persistent notification storage												C	C

Revision History

Version	Date	Description	
1.0	28. Sep. 2016	ONVIF Profile Feature Overview v.1	André Eichhorn
1.1	10. Feb. 2017	ONVIF logo updated, Profile A RCv1.2: NTP feature added, hyperlinks to specifications updated	Andreas Schneider
2.0	09. Sep. 2017	ONVIF Profile A v1.0 released, Profile T RC v1.0 added, overall review and consolidation of table for clarity	Andrew Downs, André Eichhorn, Andreas Schneider, Fredrik Svensson, Nicolas Brochu, Hiroyuki Sano
2.1	10. Apr. 2018	Profile T (RC v1.4) updates: • Media Profile Configuration Events changed to Client Optional. • Make Snapshot Client Optional. • Remove Audio Output Configuration. Move Profile for Streaming Ready out-of-the-box from Event to Video section. Remove duplicate Zero Configuration entry.	Andrew Downs, Andreas Schneider, Fredrik Svensson
2.2	08. Oct. 2018	Profile T Release updates • Update Profile T Release Candidate to Profile T Release • Update Media Transport for G	André Eichhorn
2.3	28. Nov. 2019	Event Handling updated for Profile S Audio Streaming updated for Profile T	André Eichhorn