

Explanation of the FIS Data Exchange XML Protocol

Timing and Data Technical Report

Version 1.11
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Written by FIS IT

Valid for Timing Report software version 4.2+

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Document Control

Version History	Description
Version 1.0 (18.10.2012)	Initial version
Version 1.1 (19.03.2013)	Added attribute 'used' and element 'Notused' for <Timer>
Version 1.2 (24.07.2014)	Add new element <NAT_code>
Version 1.3 (07.10.2015)	Update description text Timing Report now for Alpine, Freestyle, Snowboard, Telemark and Masters; update accordingly using {SECTOR} as placeholder for sector code of the sport
Version 1.4 (05.11.2015)	Updated <Juryemail>, <Juryphonenbr>, <Email>, <Phonenbr> (page 7) <CertifyFIS> <Timer_start>, <Software> Jury (Chief of competition) only optional run 3 for Alpine Slalom
Version 1.5 (21.12.2015)	AL CE now needs a timing report too
Version 1.6 (30.03.2016)	Added Grass Skiing incl. run 4 for Slalom
Version 1.7 (16.06.2016)	Update text XML file, added not supported sports Cross-Country, Nordic Combined, Speed Skiing (page 4) update text Software, add Support contact information (page 5)
Version 1.8 (29.09.2016)	Add description of default timing report XML file for data transfer
Version 1.9 (03.11.2017)	Add Cross-Country, Nordic Combined (CC) as supported FIS disciplines Add photo finish cameras removed Windows XP as supported OS updated email address for sending TR XML Change of child element names for TD and Jury Change Startgate to Startdevice, add attribute Type update email address for sending the XML files TD moved from Raceheader to Jury Jury child elements now Lastname, Firstname, Nation, Number Raceheader attribute Sex now Gender
Version 1.10 (08.01.2018)	Add information about firewall settings for ports used with the application
Version 1.11 (20.11.2018)	Discontinue support Timing Report Software for Linux, Mac OS 10.9 and earlier add Finishcells and Startdevice for two courses removed Powerontime add new section Synchronisation and removed Synchronisation from each run update General section Event name optional add special cases for discipline codes add Timing Report XML description version which the software supports add operating system version add Noise Detector and Electronic Start gun as start device

General

This document provides an explanation of the protocol used for the FIS Data Exchange for Timing and Data Technical Reports.

Timing and Data Technical Report is used in:

- Alpine Skiing (AL)
- Freestyle Skiing (FS)
- Snowboard (SB)
- Telemark Skiing (TM)
- Masters (MA)
- Grass Skiing (GS)
- Cross-Country (CC)
- Nordic Combined (NK)

For Freestyle Ski Cross and Snowboard Cross a Timing Report can be sent for Qualification + Finals (only one race codex in FIS calendar) or for Qualification and Finals separated (race codex for each phase in FIS calendar).

A Timing Report for Freestyle Ski Cross, Snowboard Cross and Snowboard Cross Team is only mandatory for categories Olympic Winter Games, World Championships, World Cup and World Junior Championships.

For following FIS disciplines and events NO Timing and Data Technical Report is needed:

- Freestyle Skiing: Aerials, Aerials Team, Aerials Team Qualification, Halfpipe, Slopestyle, Big Air, Big Air Team
- Snowboard: Halfpipe, Slopestyle, Big Air
- Speed Skiing (SS)

XML file

The timing report XML files must be sent to: results@fisski.com (alpineresults@fisski.com is also still valid)

Encoding of the XML file must be UTF8.

Language for the content is English, French or German.

If optional elements are used (not empty) they should at least contain the required child elements. Empty elements should not be written to the XML file.

The structure of the XML file and its content will be verified by FIS and a confirmation email will be sent out to the sender of the file containing the result of processing.

Software

The Timing Report XML file can be generated out of the timing software (if supported) or the FIS software *Timing and Data Technical Report* can be used.

Downloads of the installation package for the latest Timing Report software version for Windows (7, 8, 10) and Mac OSX (macOS) 10.10+ (64bit) are available on FIS website in Timing / Data section or on FTP: <ftp://ftp.fisski.com/Software/Programs/TimingReport/>

Please make sure that following ports are open in your firewall settings for different purposes within the application:

- HTTP/HTTPS: 80, 8080, 443
- MySQL: 3306
- POP, IMAP, SMTP: 25, 110, 465, 587, 993, 995

Default timing report XML file for data transfer

Version 3.4.0 and higher support an optional default timing report XML file for data transfer at software launch. The timekeeper has the option to transfer a (partly) prepared timing report XML files containing timing data from the timing system to the Timing Report software. Without any other settings, the Timing Report software will use following default paths for checking:

Windows: C:\Users\Public\Documents\FIS_Temp\fis-tr-default.xml
macOS: ~/Users/Shared/FIS_Temp/fis-tr-default.xml

When a file was found, it will be loaded at program launch. If the path or file is not available the software will start with an empty report. The path and file need to be created and written from the timing software. The default path can also be changed in the Timing Report software settings.

Support contact

For question and feedback please contact FIS IT department: it@fisski.com.
Preferred support language is English.

Structure of XML file

{SECTOR} has to be replaced by the selected sector code of the selected sport: AL, FS, SB, TM, MA, GS, CC or NK.

<Fisresults>

The general term for the results of all FIS competitions, root element.

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	Required/optional
OSversion				Version operating system used to generate Timing Report XML Format: [OS name]-[OS version]	string	Example: Windows-10 macOS-Mojave	optional
XMLversion				Version number of the Timing Report XML description which the software supports	string		optional
Raceheader	Sector Gender	AL, FS, SB, TM, GS, MA, CC, NK M = Men L = Ladies A = Mixed	Season Codex Nation Discipline Category Type Eventname Place Racedate	Information to define each event. The following information is applicable to all sectors (FIS disciplines). Each sector has a specific race header with further technical data.			required
{SECTOR}_race			Jury	Information about the chief of race			required
{SECTOR}_timingreport			Timekeeper Devices Connections Timing	Content of the timing report			required

<Raceheader>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	Required/optional
Season				Season, ie. 2012 for Juni 2011 – May 2012	integer		required
Codex				The unique identification number for each competition with the sector (latest details can be found in the calendar section of the FIS website)	Integer		required
NAT_code				National race code, optional use for national purposes, max. 7 characters	string		optional
Nation				The three letter FIS code for the organizing nation (latest details can be found in the calendar section of the FIS website)	string		required
Discipline				The respective discipline to the sector	string	According discipline provided by FIS calendar Special cases: IN – Cross-Country Individual MS – Cross-Country Mass Start SA – Cross-Country Skiathlon SQ – Cross-Country Sprint Qualification SF – Cross-Country Sprint Final PU – Cross-Country Pursuit RE – Cross-Country Relay TS – Cross-Country Team Sprint MA – Cross-Country Marathon/Popular OT – Cross-Country Other GU – Nordic Combined Individual Gundersen MS – Nordic Combined Individual Mass Start TE – Nordic Combined Team TS – Nordic Combined Team Sprint SP – Nordic Combined Sprint PSLQ – Alpine Parallel Slalom Qualification PGSQ – Alpine Parallel Giant Slalom Qualification SXF – Freestyle Ski Cross Finals SXQ – Freestyle Ski Cross Qualification SXQF – Freestyle Ski Cross Qualification + Finals SBXF – Snowboard Cross Finals SBXQ – Snowboard Cross Qualification SBXQF – Snowboard Cross Qualification + Finals	required
Category				The FIS abbreviation for the category of competition specific to the sector (see appendix)	string	According category provided in FIS calendar	required

Type				Type of content	string	TR = Timing report	required
Eventname				Name of event as published in FIS calendar	string		optional
Place				Resort, town, etc. of competition venue	string		required
Racedate			Day Month Year	Date of race			required

<Racedate>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/ optional
Day				Day in numerical form: 1, 11, 21, etc.	integer		required
Month				Month in numerical form: 1, 2, 10, etc.	integer		required
Year				Year in four digits numerical form: 2000, 2001, 2002, etc.	integer		required

<{SECTOR}_race>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/ optional
Jury	Function	TECHNICALDELEGATE CHIEFOFTIMING	Number (only TD's) Lastname Firstname Nation Email Phonenbr	Details about the jury member			optional

<Jury>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/ optional
Number				TD's ID number (only required for AL, SB, FS, MA)	string		required
Lastname				Last name jury member	string		required
Firstname				First name jury member	string		required
Nation				Nation (FIS abbreviation) of jury member	string		required
Email				Email address jury member	string		optional
Phonenbr				Telephone number of jury member	string		optional

<{SECTOR}_timingreport>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Timekeeper			Company Lastname Firstname Nation Email Phonenbr	Information about the timekeeper			required
Devices			Timer Timer_start Startdevice Startdevice2 Finishcells Photofinish Software	Information about the timing devices			required
Connections			Mode Voice	Information about the connection			required
Timing			Poweron Times CertifyFIS	Information about the timing			required

<Timekeeper>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Company				Name of the timing company	string		required
Lastname				Last name timekeeper	string		required
Firstname				First name timekeeper	string		required
Nation				Nation (FIS abbreviation) of timekeeper	string		required
Email				Email address timekeeper	string		required
Phonenbr				Telephone number of timekeeper	string		required

<Devices>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Timer	System	A B	Brand Model Serial Homologation Notused	Information about the timing device			required
	used	yes no					
Timer_start	System	A B	Brand Model Serial Homologation	Information about the timing device at start (if used)			optional
Startdevice Startdevice2	Type	10 = Start gate 15 = Start door 16 = Noise Detector 17 = Electronic Startgun 20 = Photo cell	Brand Model Serial Homologation	Information about the start device, CC, NK for mass start competitions not used In case of two courses are used (Startdevice = course blue, Startdevice2 = course red)			required
Finishcells	System	A B A2 B2	Brand Model Serial Homologation	Information about the finish cells In case of two courses are used (A/B = course blue, A2/B2 = course red)			required
Photofinish	System	A B	Brand Model Serial (Homologation)	Information about the photo finish camera			optional
Software			Brand Version	Information about the timing software			required

<Timer>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Brand				Brand of the timer	string		required
Model				Model of the timer	string		required
Serial				Serial number of the timer	string		required
Homologation				Homologation number of the timer	string		required
Notused				Reason why timing system A/B was not used	string		optional

<Startdevice>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Brand				Brand of the start device	string		required
Model				Model of the start device	string		required
Serial				Serial number of the start device	string		required
Homologation				Homologation number of the start device	string		required

<Finishcells>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Brand				Brand of the finish cells	string		required
Model				Model of the finish cells	string		required
Serial				Serial number of the finish cells	string		required
Homologation				Homologation number of the finish cells	string		required

<Photofinish>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Brand				Brand of the photo finish camera	string		required
Model				Model of the photo finish camera	string		required
Serial				Serial number of the photo finish camera	string		optional
Homologation				Homologation number of the photo finish camera (still not used)	string		optional

<Software>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Brand				Brand of the software	string		required
Version				Version number of the software	string		required

<Connections>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Mode	System	A B		Information about the connections of the used systems	string	Cable Radio LAN WLAN Mobile USB Other	required
Voice				Information about the voice connections	string	Cable Radio LAN WLAN Mobile USB Other	required

<Timing>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Synchronisation			Sync Handsync Synccheck	Information about the synchronisation			required
Times	Run	1 2 3 (AL, GS Slalom only) 4(GS Slalom only)	Bibfirst Biblast BestA Allresults Comment	Information about the times			required
CertifyFIS				Confirmation that the timing and calculations of this event adhered to the FIS rules	String	yes no	required

<Synchronisation>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Sync				Synchronisation time of the electronic timing system	string		required
Handsync				Synchronisation time of the hand timing system	string		required
Synccheck	System	A B		Synchronisation check of the timing system	string		required

<Times>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Bibfirst	No	Bib number	Start Finish Net Hand	Information about start and finish times of first Bib			required
Biblast	No	Bib number	Start Finish Net Hand	Information about start and finish times of last Bib			required
BestA			Bib	Information about the best time	string		required
Allresults	System	yes no	MissedA	Information if all results measured with system A			required
Comment				Comment to times	string		optional

<Bibfirst>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Start				Start time of the first competitor of system A, B	string		required
Finish				Finish time of the first competitor of system A, B	string		required
Net				Netto time of the first competitor	string		required
Hand				Hand netto time of the first competitor	string		required

<Biblast>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Start				Start time of the last competitor of system A, B	string		required
Finish				Finish time of the last competitor of system A, B	string		required
Net				Netto time of the last competitor	string		required
Hand				Hand netto time of the last competitor	string		required

<BestA>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Bib				Bib of the best competitor in system A	string		required
Time				Time of the best competitor in system A	string		required

<Allresults>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
MissedA			Bib Reason Timefrom	Information about the reasons of missed times of competitors in system A	string		required

<MissedA>

Element	Attributes	Attribute values	Child elements	Description	Data type	Values	required/optional
Bib				Bib of the competitor	string		required
Reason				Reason for failure and missed times	string		required
Timefrom				From which backup system came the time	string		required

Example of timing report XML

```

<?xml version="1.0" encoding="UTF-8"?>
<Fisresults>
  <OSversion>Windows-10</OSversion>
  <XMLversion>1.11</XMLversion>
  <Raceheader Sector="{SECTOR}" Sex="L">
    <Season>2012</Season>
    <Codex>0000</Codex>
    <NAT_code>USA12</NAT_code>
    <Discipline>DH</Discipline>
    <Category>WC</Category>
    <Type>TR</Type>
    <Racedate>
      <Day>19</Day>
      <Month>1</Month>
      <Year>2012</Year>
    </Racedate>
    <Eventname>Testevent</Eventname>
    <Place>Oberhofen</Place>
    <Nation>SUI</Nation>
    <TD Function="Delegate">
      <Number>A0000</Number>
      <Lastname>Defago</Lastname>
      <Firstname>Daniel</Firstname>
      <Nation>SUI</Nation>
    </TD>
  </Raceheader>
  <{SECTOR}_race>
    <Jury Function="ChiefofTiming">
      <Lastname>Mueller</Lastname>
      <Firstname>Hans</Firstname>
      <Nation>GER</Nation>
      <Email>mueller@gmx.de</Email>
      <Phonenbr>+4912374567455</Phonenbr>
    </Jury>
  </{SECTOR}_race>
  <{SECTOR}_timingreport>
    <Timekeeper>
      <Company>FIS Timing</Company>
      <Lastname>Seehase</Lastname>
      <Firstname>Ulf</Firstname>
      <Nation>GER</Nation>
      <Email>seehase@fisski.com</Email>
      <Phonenbr>+411234567890</Phonenbr>
    </Timekeeper>
  </Devices>

```

```

<Timer System="A" used="no">
  <Brand>ALGE</Brand>
  <Model>S4</Model>
  <Serial>AL12345678</Serial>
  <Homologation>ALG.005T.10</Homologation>
  <Notused_A>Timer A out of order</Notused_A>
</Timer>
<Timer System="B" used="yes">
  <Brand>MICROGATE </Brand>
  <Model>RACETIME2 </Model>
  <Serial>12345678</Serial>
  <Homologation> MGA.002T.11 </Homologation>
</Timer>
<Startdevice Type="10">
  <Brand>Longines</Brand>
  <Model>B65</Model>
  <Serial>LO1234567</Serial>
  <Homologation>LON.S57.03</Homologation>
</Startdevice>
<Finishcells System ="A">
  <Brand>OMEGA</Brand>
  <Model>Transtime</Model>
  <Serial>987654 </Serial>
  <Homologation> OME.L67.03 </Homologation>
</Finishcells>
<Finishcells System ="B">
  <Brand> OMEGA </Brand>
  <Model>Transtime </Model>
  <Serial>987655 </Serial>
  <Homologation> OME.L67.03 </Homologation>
</Finishcells>
<Photofinish System ="A">
  <Brand>FINISH LYNX</Brand>
  <Model>EtherLynx Vision</Model>
  <Serial>987656</Serial>
  <Homologation></Homologation>
</Photofinish>
<Photofinish System ="B">
  <Brand>FINISH LYNX</Brand>
  <Model>EtherLynx Vision</Model>
  <Serial>987657</Serial>
  <Homologation></Homologation>
</Photofinish>
<Software>
  <Brand>ST_Alpine</Brand>
  <Version>2.1.12</Version>
</Software>
</Devices>

```

```

<Connections>
  <Mode System="A">Cable</Mode>
  <Mode System="B">Cable</Mode>
  <Voice>Cable</Voice>
</Connections>
<Timing>
  <Synchronisation>
    <Sync>10:10:34</Sync>
    <Handsync>10:10:23</Handsync>
    <Synccheck System="A">10:11:34.9874</Synccheck>
    <Synccheck System="B">10:11:34.9875</Synccheck>
  </Synchronisation>
  <Times Run="1">
    <Bibfirst no="1">
      <Start System="A">11:00:00.0023</Start>
      <Start System="B">11:00:00.4323</Start>
      <Finish System="A">11:01:00.0023</Finish>
      <Finish System="B">11:01:00.8767</Finish>
      <Net>1:00.00</Net>
      <Hand>1:00.00</Hand>
    </Bibfirst>
    <Biblast no="112">
      <Start System="A">11:30:00.0022</Start>
      <Start System="B">11:30:00.0025</Start>
      <Finish System="A">11:32:00.4324</Finish>
      <Finish System="B">11:32:00.1232</Finish>
      <Net>2:00.00</Net>
      <Hand>2:00.15</Hand>
    </Biblast>
    <BestA>
      <Bib>45</Bib>
      <Time>2:01.89</Time>
    </BestA>
    <Allresults SystemA="no">
      <MissedA>
        <Bib>10</Bib>
        <Reason>Batteries</Reason>
        <Timefrom>System B</Timefrom>
      </MissedA>
      <MissedA>
        <Bib>12</Bib>
        <Reason>Batteries</Reason>
        <Timefrom>System B</Timefrom>
      </MissedA>
      <MissedA>
        <Bib>13</Bib>
        <Reason>Batteries</Reason>
        <Timefrom>System B</Timefrom>
      </MissedA>
    </Allresults>
  </Times>
</Timing>
  
```

```

    </MissedA>
    <MissedA>
      <Bib>14</Bib>
      <Reason>Batteries</Reason>
      <Timefrom>System B</Timefrom>
    </MissedA>
  </Allresults>
  <Comment>low batteries in photo cell A</Comment>
</Times>
<Times Run="2">
  <Bibfirst no="20">
    <Start System="A">12:13:00.2344</Start>
    <Start System="B">12:13:00.2345</Start>
    <Finish System="A">12:14:00.4567</Finish>
    <Finish System="B">12:14:00.4566</Finish>
    <Net>1:00.01</Net>
    <Hand>1:00.04</Hand>
  </Bibfirst>
  <Biblast no="83">
    <Start System="A">12:30:00.7890</Start>
    <Start System="B">12:30:00.6789</Start>
    <Finish System="A">12:32:00.5678</Finish>
    <Finish System="B">12:32:00.7654</Finish>
    <Net>2:00.01</Net>
    <Hand>2:00.16</Hand>
  </Biblast>
  <BestA>
    <Bib>87</Bib>
    <Time>2:00.32</Time>
  </BestA>
  <Allresults SystemA="no">
    <MissedA>
      <Bib>11</Bib>
      <Reason>Operator</Reason>
      <Timefrom>System B</Timefrom>
    </MissedA>
  </Allresults>
  <Comment>Operator missed to arm system A </Comment>
</Times>
<CertifyFIS>yes</CertifyFIS>
</Timing>
</{SECTOR}_timingreport>
</Fisresults>

```