Documentation
Calculation WebService

by

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1. General

The program LensSOAPServer is the server component, which includes the calculation webservice. The communication interface is based on the SOAP protocol. The communication can be done via HTTP or HTTPS.

1.1 Security

The webservice can be secured by „Security by Transport“, when the SSH-Protocol is used. Addtionally, each request is authentificated by username and password.

2. WebService

2.1 GetCalculation

The calculation webservice, which can be called to calculate an order. An order consists of one or two lenses.

2.1.1 Request

Field	Content
UID	Username
PWD	Password
CLIENT	Name of the client application (Optional) Example: LensOrder
VERSION	Version of the client application (Optional) Example: 3.2
PARTNER	Partner code (Optional) Example: LWR
FORMAT	Format description. Only VCA is supported at the moment Example: VCA
DATA	Calculation request in the specified format. The calculation request has to be BASE64 coded. Example: A sample request in VCA is described later

2.1.2 SOAP Request

```
<?xml version="1.0" ?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:enc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
env:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
   <env:Body>
      <m:GetCalculation xmlns:m="http://xb2.net/soap">
         <UID xsi:type="xs:string">123456</UID>
         <PWD xsi:type="xs:string">TEST</PWD>
         <CLIENT xsi:type="xs:string">LensOrder</CLIENT>
         <VERSION xsi:type="xs:string">3.2</VERSION>
         <PARTNER xsi:type="xs:string">LWR</PARTNER>
         <FORMAT xsi:type="xs:string">VCA</FORMAT>
         <DATA xsi:type="xs:string">T01B … UDQo=</DATA>
      </m:GetCalculation>
   </env:Body>
</env:Envelope>
```

2.1.3 VCA request

The VCA request is based on the official VCA standard 3.06 from the vision council of america (http://www.thevisioncouncil.org).

Tag	**Content**
DO	Side attribute
ACCN	Customer number
CLIENT	Reference
SPH	Sphere
CYL	Cylinder
AX	Axis
ADD	Addition
PRVM	Prism magnitude
PRVA	Prism angle
CRIB	Ordered diameter
LNAM	Ordered product code
MINCTR	Requested center thickness
MINEDG	Requested edge thickness

Tag	Content
IPD / NPD	PD
OCHT / SEGHT	Height
DBL	Distance between lenses
HBOX	Horizontal boxing
VBOX	Vertical boxing
CIRC	Circumference
TRCFMT	Shape data
FTYP	Frame type
FCOCIN / FCOCUP	Decentration Frame center to optical center
FCSGIN / FCSGUP	Decentration Frame center to segment or fitting cross
ETYP	Edge type
BEVP	Bevel position
BEVM	Bevel modifier
GWIDTH	Groove width
GDEPTH	Groove depth
DRILL / DRILLE	Drillholes

A detailed description of each field can be found in the official documentation of the VCA standard, which can be downloaded on the website of the vision council (see above).
The **bold** tags are mandatory, all other tags can be used to specify the order in more details.

2.1.4 Response

Field	Content
CalcResult	Calculation result in the VCA format. All informations about the caluclation are stored inside. The calculation result is BASE64 coded. Example: A sample result in VCA is described later.

2.1.5 SOAP Response

```
<?xml version="1.0" ?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:enc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
env:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
   <env:Body>
      <m:GetCalculationResponse xmlns:m="http://xb2.net/soap">
         <CalcResult xsi:type="xs:string">T01B … QNCg==</CalcResult>
      </m:GetCalculationResponse>
   </env:Body>
</env:Envelope>
```

2.1.6 VCA response

Tag	**Content**
STATUS	Indicates if the caluclation was successful (STATUS=0) or not (STATUS=3)
XSTATUS	This tag contains the description of the error, in case the calculation was not successful
CTHICK	Resulting center thickness
CRIB	Optimized cribbing diameter
DIA	Blank diameter
MBASE	Choosen Basecurve
THKA/P/R	Thickest point on the cribbing shape
THNA/P/R	Thinnest point on the cribbing shape
WEIGHT	Weight of the final lens
_C3DFMT	Proprietary 3D modell of the lens
_C	Proprietary 3D modell of the lens
_THKA/P/R	Thickest point on the final shape
_THNA/P/R	Thinnest point on the final shape

There are some proprietary tags in the result VCA string to define all necessary informations.

2.1.6.1 3D modell of the lens

Tag	Content
_C3DFMT	This tag contains the description of the following 3D format. The only information in this tag is the side of 3D modell. Example: _C3DFMT=R
_C	The _C3DFMT tag will be followed by several _C tags. These tags contain the real 3D modell of the lens. Each tag contains 1 point of the 3D modell. Example: _C=<ANGLE><DIAMETER><DEPTH 1><DEPTH2> The angle value has 3 characters with leading spaces. The diameter is used instead of the radius value to avoid decimal values. The diameter has 2 characters with leading spaces and in represented in millimeters. The depth 1 and depth 2 have both 4 characters with leading spaces and they are represented in hundreths of a millimeter.

The coordinate system is in cylinder coordinates. The z-axis is perpendicular to the equitangent plane at point r=0 (x=0/y=0).

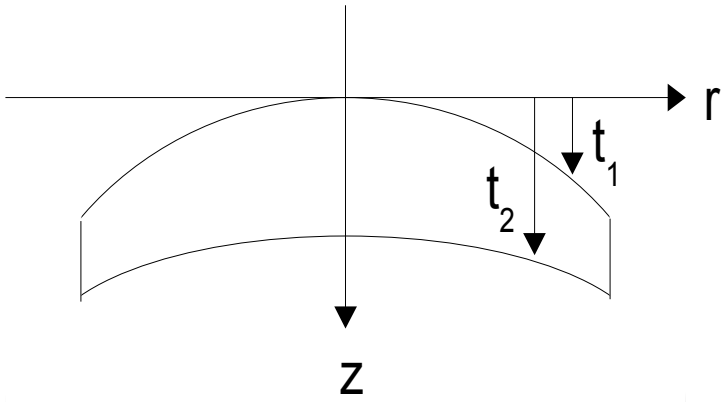

Figure 1: 3D coordinate system