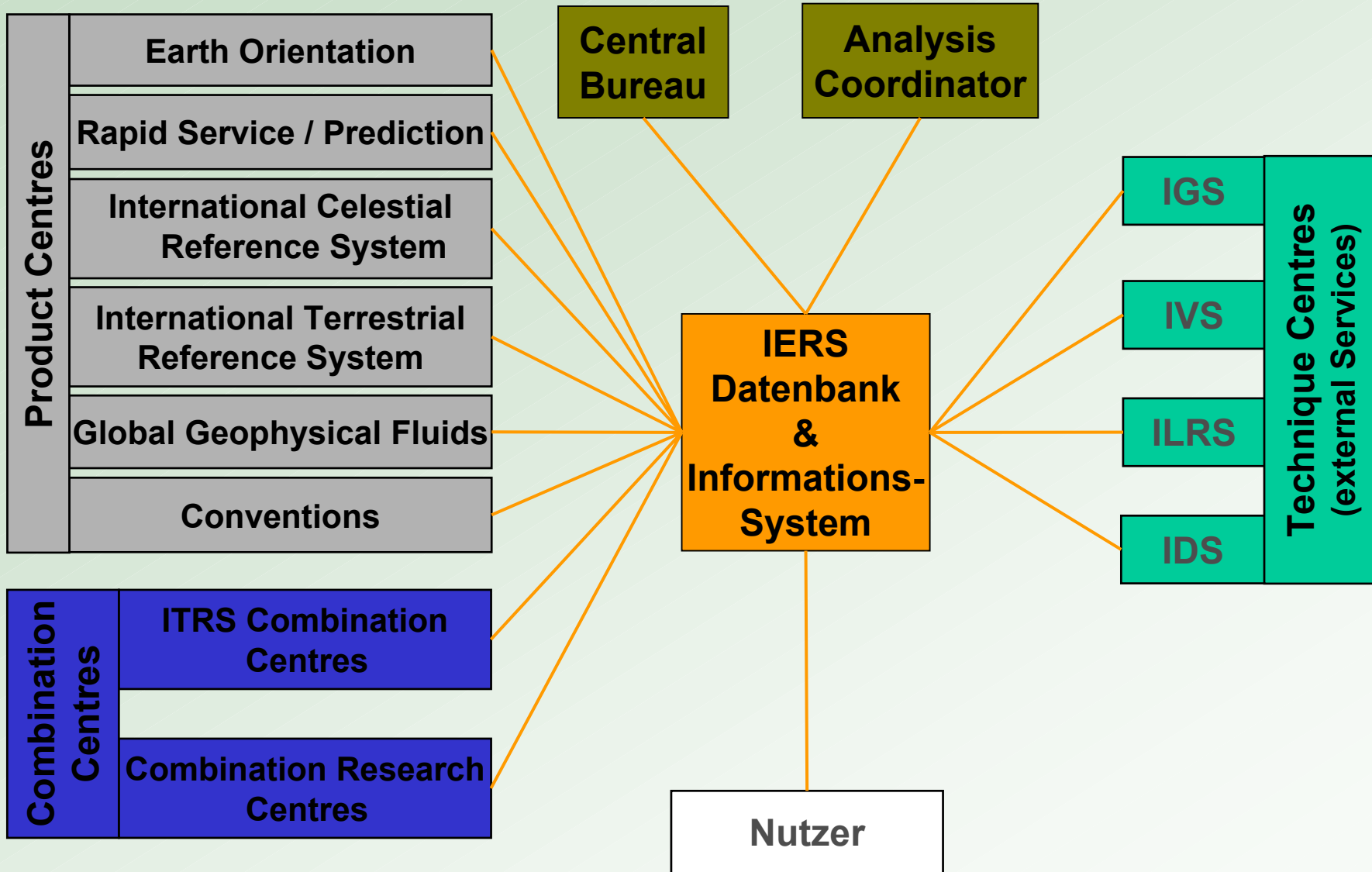


IERS Datenbank und Informationssystem

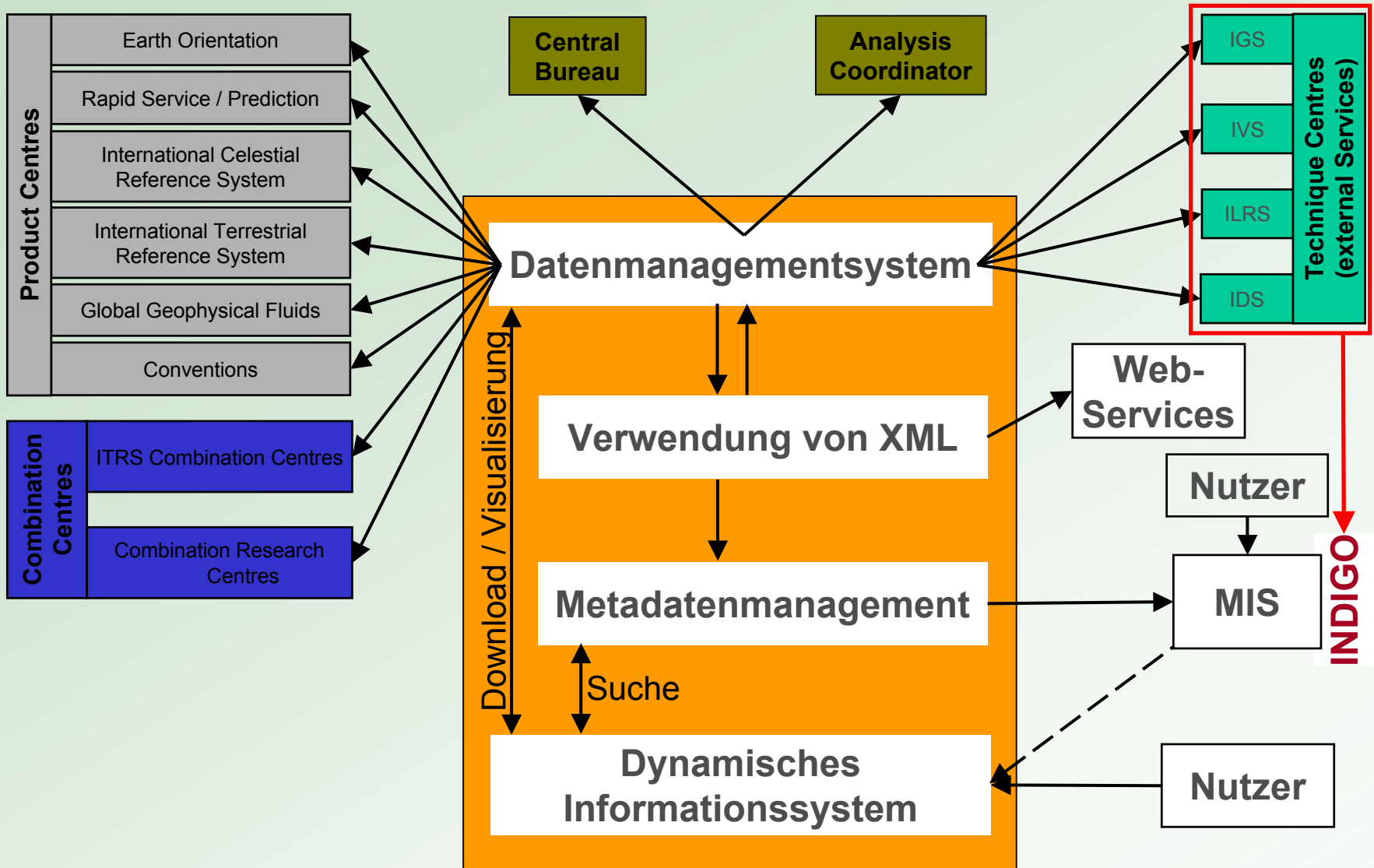
Wolfgang Schwegmann und Bernd Richter

IERS Central Bureau
am Bundesamt für Kartographie und Geodäsie

Motivation



Motivation



- Zunehmenden Nutzung des WEB für den Austausch von Dokumenten und Daten führte zur Entwicklung von XML.
- Allgemeine Syntax zur Definition von Dokument- und Datenstrukturen.
- XML ist textorientiert und plattformunabhängig.
- XML-Parser prüfen die Syntax von XML-Daten automatisch beim Einlesen.
- Definition von Dokument- und Datenstrukturen ohne Angaben zum Layout.
- Es gibt zahlreiche Standards (XQUERY, XPATH, XSLT, SVG) und Tools zur Bearbeitung von XML-Dokumenten.

XML vs. ASCII: gpsrapid.daily

The image shows two windows of a text editor. The top window displays the original ASCII file 'C:\XML\gpsrapid.daily' with a grid of numerical data. The bottom window displays the XML file 'C:\XML\gpsrapid.daily2.xml' with the corresponding XML structure. Red boxes highlight specific data points in the ASCII file and their corresponding XML elements and attributes. Green boxes and arrows label these as 'XML-Schema', 'Element', 'Complex element', and 'Attribute'.

XML-Schema points to the schema location attribute: `SchemaLocation="file:/C:/XML/gpsrapid.xsd"`

Element points to the `<MJD>53100</MJD>` element.

Complex element points to the `<EOPSet lineID="2" type="iers">` element.

Attribute points to the `unit="sec. of arc"` attribute.

```
<?xml version="1.0" ?>
- <GPSRapid xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="file:/C:/XML/gpsrapid.xsd">
- <data>
- <EOPSet lineID="2" type="iers">
  <MJD>53100</MJD>
  <pole>
    <X unit="sec. of arc">-.14119</X>
    <sigmaX unit="sec. of arc">.00006</sigmaX>
    <Y unit="sec. of arc">.33101</Y>
    <sigmaY unit="sec. of arc">.00005</sigmaY>
  </pole>
  <UT1>
    <UT1_UTC unit="sec. of time">-.438408</UT1_UTC>
    <sigmaUT1_UTC unit="sec. of time">.000003</sigmaUT1_UTC>
  </UT1>
  <nutation>
    <dPsi unit="sec. of arc">-.05196</dPsi>
    <sigma_dPsi unit="sec. of arc">.00042</sigma_dPsi>
    <dEpsilon unit="sec. of arc">-.00409</dEpsilon>
    <sigma_dEpsilon unit="sec. of arc">.00016</sigma_dEpsilon>
  </nututation>
</EOPSet>
- <EOPSet lineID="3" type="iers">
  <MJD>53101</MJD>
  <pole>
```

XML-Validierung

File Edit Search Perspective Options Tools Debugger Document Window Help

gpsrapid.daily.xml eop_base.xsd gpsrapid.xsd GlobalDefs.xsd

```

3 xsi:schemaLocation="http://www.iers.org/2003/schema/eop
4 xmlns="http://www.iers.org/2003/schema/eop"
5 <textContent>
6 <textLine lineID="1" section="" content="text"> 5309 -.14
7 <textLine lineID="105" section="" content="data">p5320
8 </textContent>
9 <data>
10 <EOPSet lineID="2" type="iers">
11 <MJD>53100</MJD>
12 <pole>
13 <X>-.14119</X>
14 <sigmaX unit="sec. of arc">.00006</sigmaX>
15 <Y unit="sec. of arc">.33101</Y>
16 <sigmaY unit="sec. of arc">.00005</sigmaY>
17 </pole>
18 <UT1>
19 <UT1_UTC unit="sec. of time">-.438408</UT1_UTC>
20 <sigmaUT1_UTC unit="sec. of time">.000003</sigmaUT1_UTC>
21 </UT1>
22 <nutation>
23 <dPsi unit="sec. of arc">-.05196</dPsi>
24 <sigma_dPsi unit="sec. of arc">.00042</sigma_dPsi>
25 </nutation>
26 <EOPSet lineID="3" type="iers">
27 <MJD>53101</MJD>
28 <pole>
29 <X unit="sec. of arc">-.14071</X>
30 <sigmaX unit="sec. of arc">.00006</sigmaX>
31 <Y unit="sec. of arc">.33101</Y>
32 <sigmaY unit="sec. of arc">.00005</sigmaY>
33 </pole>
34 </EOPSet>
35 </data>
36 </textContent>
37 </textContent>
38 </textContent>
39 </textContent>
40 </textContent>
41 </textContent>
42 </textContent>
43 </textContent>
44 </textContent>
45 </textContent>
46 </textContent>
47 </textContent>
48 </textContent>
49 </textContent>
50 </textContent>
51 </textContent>
52 </textContent>
53 </textContent>
54 </textContent>
55 </textContent>
56 </textContent>
57 </textContent>
58 </textContent>
59 </textContent>
60 </textContent>
61 </textContent>
62 </textContent>
63 </textContent>
64 </textContent>
65 </textContent>
66 </textContent>
67 </textContent>
68 </textContent>
69 </textContent>
70 </textContent>
71 </textContent>
72 </textContent>
73 </textContent>
74 </textContent>
75 </textContent>
76 </textContent>
77 </textContent>
78 </textContent>
79 </textContent>
80 </textContent>
81 </textContent>
82 </textContent>
83 </textContent>
84 </textContent>
85 </textContent>
86 </textContent>
87 </textContent>
88 </textContent>
89 </textContent>
90 </textContent>
91 </textContent>
92 </textContent>
93 </textContent>
94 </textContent>
95 </textContent>
96 </textContent>
97 </textContent>
98 </textContent>
99 </textContent>
100 </textContent>

```

Beschreibung - 1 Element	Resource	System ID	Position
E cvc-complex-type.4: Attribute 'unit' must appear on element 'X'.	gpsrapid.daily.xml	C:\XML\gpsrapid.daily.xml	13:1

```

29 <EOPSet lineID="3" type="iers">
30 <MJD>53101</MJD>
31 <pole>
32 <X unit="sec. of arc">-.14071</X>
33 <sigmaX unit="sec. of arc">.00006</sigmaX>
34 <Y unit="sec. of arc">.33101</Y>
35 <sigmaY unit="sec. of arc">.00005</sigmaY>
36 </pole>
37 </EOPSet>
38 </textContent>
39 </textContent>
40 </textContent>
41 </textContent>
42 </textContent>
43 </textContent>
44 </textContent>
45 </textContent>
46 </textContent>
47 </textContent>
48 </textContent>
49 </textContent>
50 </textContent>
51 </textContent>
52 </textContent>
53 </textContent>
54 </textContent>
55 </textContent>
56 </textContent>
57 </textContent>
58 </textContent>
59 </textContent>
60 </textContent>
61 </textContent>
62 </textContent>
63 </textContent>
64 </textContent>
65 </textContent>
66 </textContent>
67 </textContent>
68 </textContent>
69 </textContent>
70 </textContent>
71 </textContent>
72 </textContent>
73 </textContent>
74 </textContent>
75 </textContent>
76 </textContent>
77 </textContent>
78 </textContent>
79 </textContent>
80 </textContent>
81 </textContent>
82 </textContent>
83 </textContent>
84 </textContent>
85 </textContent>
86 </textContent>
87 </textContent>
88 </textContent>
89 </textContent>
90 </textContent>
91 </textContent>
92 </textContent>
93 </textContent>
94 </textContent>
95 </textContent>
96 </textContent>
97 </textContent>
98 </textContent>
99 </textContent>
100 </textContent>

```

Beschreibung - 1 Element	Resource	System ID	Position
E cvc-complex-type.4: Attribute 'unit' must appear on element 'X'.	gpsrapid.daily.xml	C:\XML\gpsrapid.daily.xml	13:1

Fehler

C:\XML\gpsrapid.daily.xml | Validierung - fehlgeschlagen. fehler: 1 | w000A | 13:31

XPATH

File Edit Search Perspective Options Tools Debugger Document Window Help

gpsrapid.daily.xml

XPath 1.0 `/EOPSet[(position()=1) or (position()=last())]/MJD`

```

1964 </EOPSet>
1965 <EOPSet lineID="105" type="prediction">
1966 <MJD>53203</MJD>
1967 <pole>
1968 <X unit="sec. of arc">.03878</X>
1969 <sigmaX unit="sec. of arc">.008</sigmaX>
1970 <Y unit="sec. of arc">.51856</Y>
1971 <sigmaY unit="sec. of arc">.008</sigmaY>
1972 </pole>
1973 <UT1>
1974 <UT1.UTC unit="sec. of time">-.463027</UT1.UTC>
1975 <sigmaUT1.UTC unit="sec. of time">.001690</sigmaUT1.UTC>
1976 </UT1>
1977 </nutaton>
    
```

XPath 1.0 `/EOPSet[(position()=1) or (position()=last())]/MJD`

Beschreibung - 2 Elemente	Resource	System ID	Position
/GPSRapid[1]/data[1]/EOPSet[1]/MJD[1] - 53100	gpsrapid.daily.xml	C:\XML\gpsrapid.daily.xml	9:0
/GPSRapid[1]/data[1]/EOPSet[104]/MJD[1] - 53203	gpsrapid.daily.xml	C:\XML\gpsrapid.daily.xml	1966:0

Ind	Beschreibung - 2 Elemente	Resource	System ID	Position
-	/GPSRapid[1]/data[1]/EOPSet[1]/MJD[1] - 53100	gpsrapid.daily.xml	C:\XML\gpsrapid.daily.xml	9:0
-	/GPSRapid[1]/data[1]/EOPSet[104]/MJD[1] - 53203	gpsrapid.daily.xml	C:\XML\gpsrapid.daily.xml	1966:0

XPath - database.xml XPath - gpsrapid.daily.xml

C:\XML\gpsrapid.daily.xml XPath - - erfolgreich | u0020 | 1966:1

Transformation of XML Files: ASCII → SVG (gpsrapid.daily)

XML file

+

XSL file

```
D:\0407-Statusseminar2004\gpsrapid\gpsrapid.daily.xml
Datei Bearbeiten Ansicht Favoriten Extras ?
Zurück Suchen Favoriten
Adresse D:\0407-Statusseminar2004\gpsrapid\gpsrapid.daily.xml

<?xml version="1.0" ?>
- <GPSRapid xmlns="http://www.iers.org/2003/
+ <textContent>
- <data>
- <EOPSet lineID="1" type="iers">
  <MJD>53033</MJD>
  - <pole>
    <X unit="sec. of arc">-.03352</X>
    <sigmax unit="sec. of arc">.00003</sigmax>
    <Y unit="sec. of arc">.18109</Y>
    <sigmaY unit="sec. of arc">.00003</sigmaY>
  </pole>
- <UT1>
  <UT1_UTC unit="sec. of time">-.40467</UT1_UTC>
  <sigmaUT1_UTC unit="sec. of time">.00003</sigmaUT1_UTC>
</UT1>
- <nutaton>
  <dPsi unit="sec. of arc">-.05598</dPsi>
  <sigma_dPsi unit="sec. of arc">.00031</sigma_dPsi>
  <dEpsilon unit="sec. of arc">-.00088</dEpsilon>
  <sigma_dEpsilon unit="sec. of arc">.00003</sigma_dEpsilon>
</nutaton>
</EOPSet>
- <EOPSet lineID="2" type="iers">
  <MJD>53034</MJD>
  - <pole>
```

```
<?xml version="1.0" ?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
  <xsl:template match="/">
    <?xml version="1.0" standalone="no"?>
    <!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 20000802//EN"
      "http://www.w3.org/TR/2000/CR-SVG-20000802/DTD/svg-20000802.dtd">

    <svg width="1200" height="1200">

      <!-- First draw 3 rectangles - Log and depth tracks and the header box -->
      <g id="Track" style="fill:yellow; stroke:black; stroke-width:4;">
        <rect x="100" y="120" width="800" height="530"/>
      </g>

      <!-- Code to draw the axes, grid, x/y annotation has been snipped -->

      <!-- Draw the line -->

      <g id="XPole">
        <path style="fill:none; stroke:red; stroke-width:4;
          stroke-dasharray: 4 4; opacity: 1.0"
          d="M
        <xsl:apply-templates />
      </g>
    </svg>
  </xsl:template>

  <xsl:template match="//EOPSet">
    <xsl:value-of select="MJD" /> <xsl:value-of select="X" />
  </xsl:template>
</xsl:stylesheet>
```

Transformation of XML Files: ASCII → SVG (gpsrapid.daily)



XML file

+

XSL file

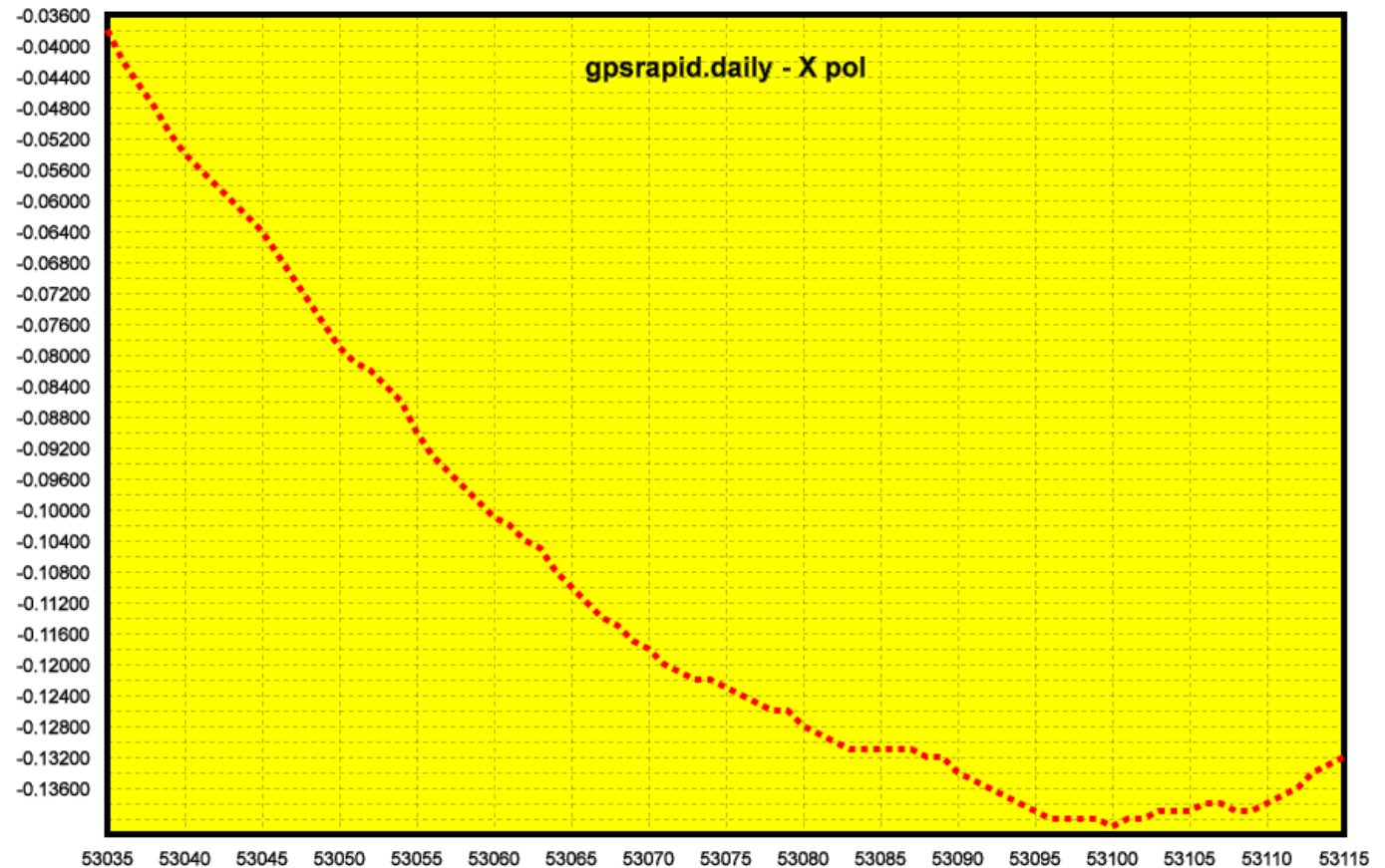
=

SVG file

```

D:\0407-Statusseminar2004\gpsrapid\gp
Datei Bearbeiten Ansicht Favoriten Extr
← Zurück → Suchen
Adresse D:\0407-Statusseminar2004\gpsrapid\

<?xml version="1.0" ?>
- <GPSRapid xmlns="http://www.ie
+ <textContent>
- <data>
- <EOPSet lineID="1" type="iers
  <MJD>53033</MJD>
  - <pole>
    <X unit="sec. of arc">-.03
    <sigmaX unit="sec. of arc
    <Y unit="sec. of arc">.18
    <sigmaY unit="sec. of arc
  </pole>
- <UT1>
  <UT1_UTC unit="sec. of ti
  <sigmaUT1_UTC unit="sec
</UT1>
- <nutatation>
  <dPsi unit="sec. of arc">-
  <sigma_dPsi unit="sec. of
  <dEpsilon unit="sec. of arc
  <sigma_dEpsilon unit="sec
</nutatation>
</EOPSet>
- <EOPSet lineID="2" type="iers
  <MJD>53034</MJD>
  - <pole>
  </xsl:stylesheet>
  
```



- Daten zur Beschreibung von Datensätzen.
- Enthalten Informationen zum Verständnis eines Datensatzes unabhängig von anderen Quellen.
- Gute Metadaten sind entscheidend für die Suche nach spezifischen Datensätzen.
- Durch die Verwendung von Catalog Services können Metadaten entsprechend internationaler Standards zur weiteren Verbreitung an MIS weitergegeben werden.
- MIS erlauben dem Nutzer nach integrierten (Geo-) Datensätzen zu suchen.

IERS-Metadatenansatz

product
classification

content
and format

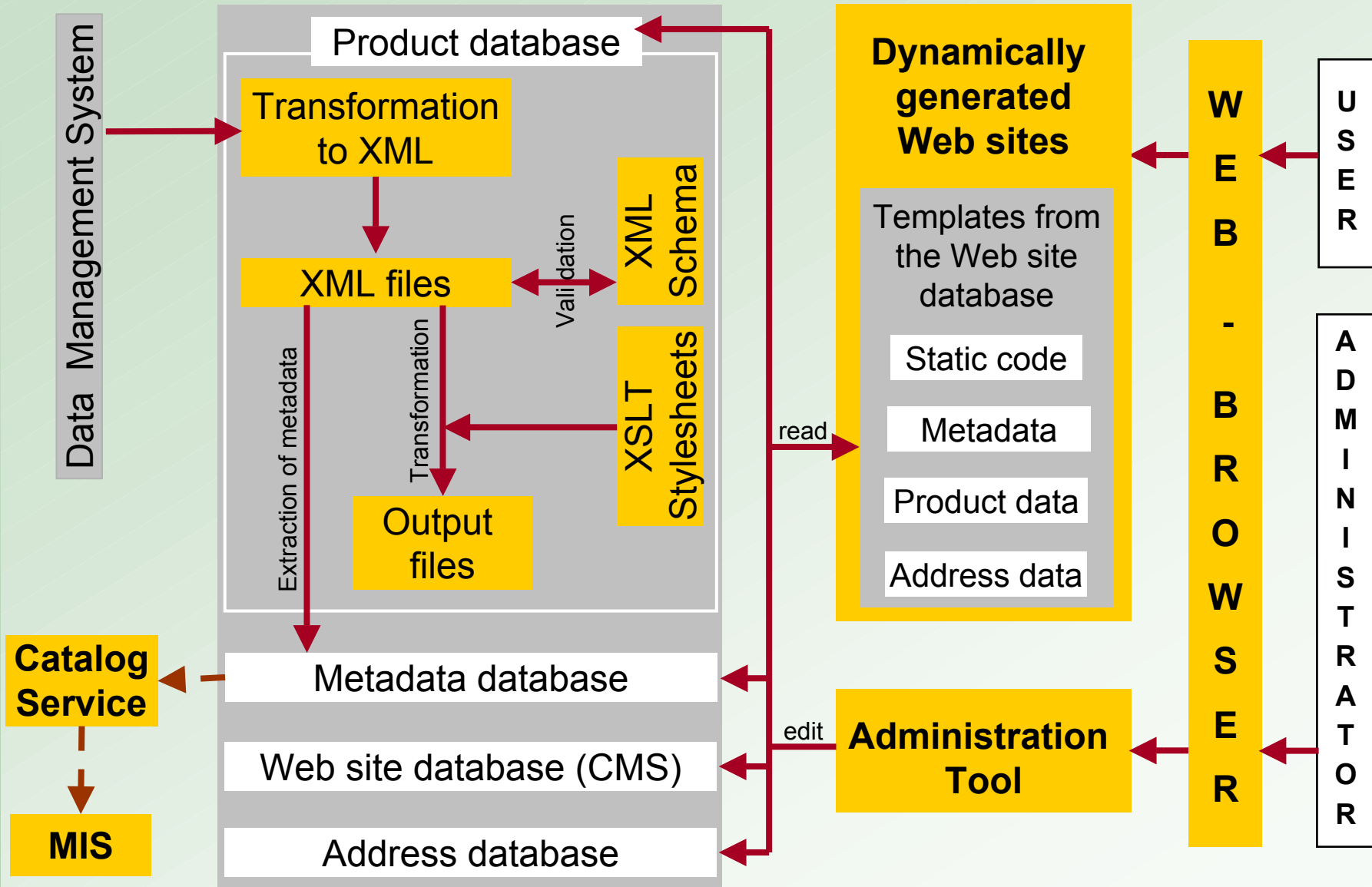
availability
and
publication

■ Meta tags :

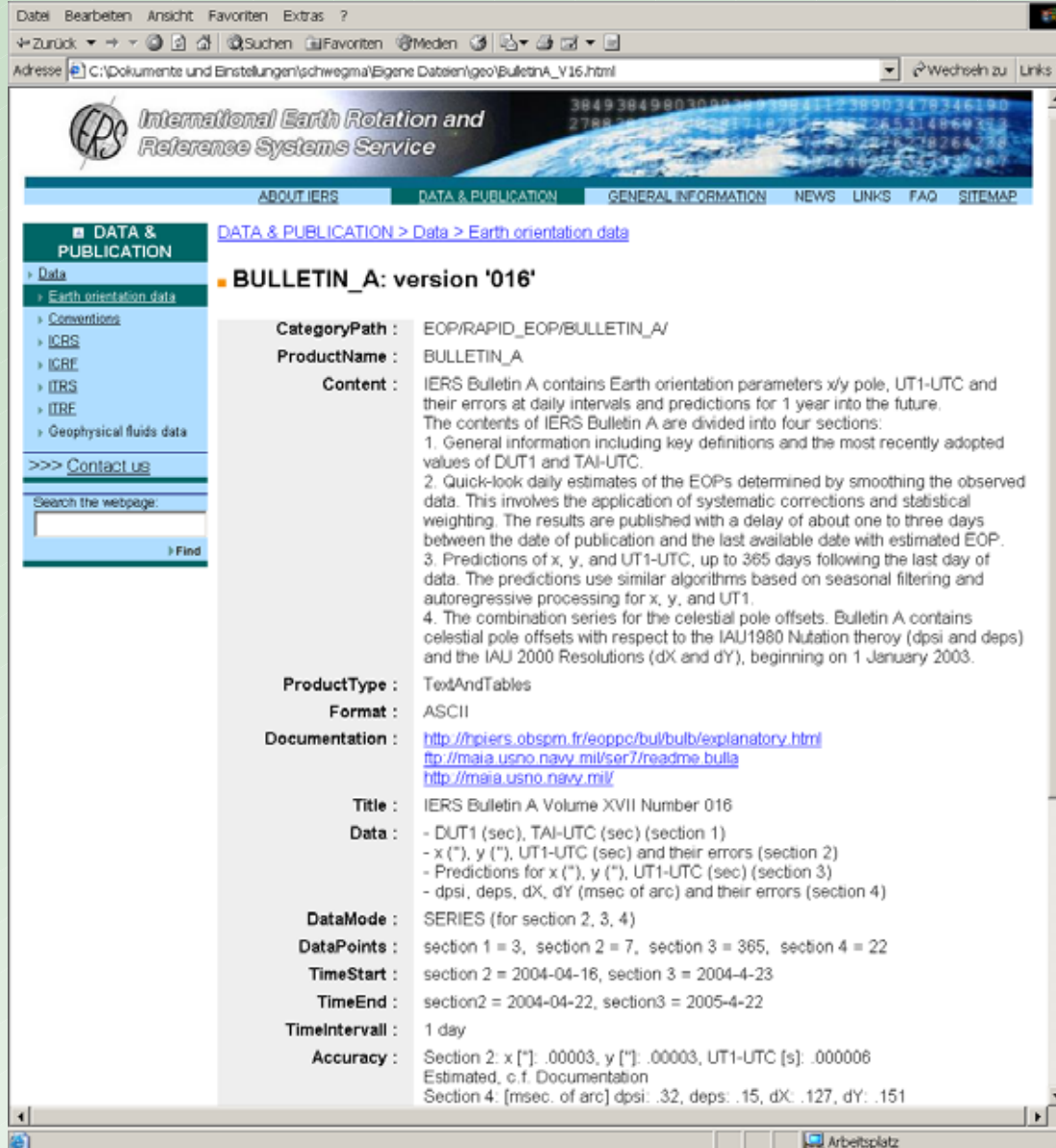
▶ [add new](#)

ID	XML Tag	Description	ColWidth	Edit
4	CATEGORYPATH	CategoryPath		
5	PRODUCTNAME	ProductName		
8	CONTENT	Content		
9	PRODUCTTYPE	ProductType		
10	FORMAT	Format		
11	FORMATDESCRIPTION	FormatDescription		
12	DOCUMENTATION	Documentation		
13	TITLE	Title	350	
14	SECTIONS	Sections		
15	SUBSECTIONS	Subsections		
16	DATA	Data		
17	DATAMODE	DataMode		
18	DATAPOINTS	DataPoints		
19	TIMESTART	TimeStart	150	
20	TIMEEND	TimeEnd	150	
21	TIMEINTERVAL	TimeIntervall		
22	ACCURACY	Accuracy		
23	KEYWORDS	Keywords		
24	FREQUENCY	Frequency		
25	ARCHIVE	Archive		
26	SOURCE	Source		
39	DELETELOCAL	DeleteLocal		
27	CREATEDBY	CreatedBy		
28	PUBLISHEDBY	PublishedBy		
29	REFERENCE	Reference		
30	DATE	Date	150	
31	CONATACT	Contact		
32	DISTRIBUTION	Distribution		
33	EMAILSUBSCRIPTION	E-MailSubscription		
34	VOLUME	Volume		
35	NUMBER	Number		
36	ISBN	ISBN		
37	ISSN	ISSN		

Konzept des Informationssystems



Nutzerschnittstelle: Produktinformationen (1)



International Earth Rotation and Reference Systems Service

ABOUT IERS DATA & PUBLICATION GENERAL INFORMATION NEWS LINKS FAQ SITEMAP

DATA & PUBLICATION > Data > Earth orientation data

BULLETIN_A: version '016'

CategoryPath : EOP/RAPID_EOP/BULLETIN_A/

ProductName : BULLETIN_A

Content : IERS Bulletin A contains Earth orientation parameters x/y pole, UT1-UTC and their errors at daily intervals and predictions for 1 year into the future. The contents of IERS Bulletin A are divided into four sections:
 1. General information including key definitions and the most recently adopted values of DUT1 and TAI-UTC.
 2. Quick-look daily estimates of the EOPs determined by smoothing the observed data. This involves the application of systematic corrections and statistical weighting. The results are published with a delay of about one to three days between the date of publication and the last available date with estimated EOP.
 3. Predictions of x , y , and UT1-UTC, up to 365 days following the last day of data. The predictions use similar algorithms based on seasonal filtering and autoregressive processing for x , y , and UT1.
 4. The combination series for the celestial pole offsets. Bulletin A contains celestial pole offsets with respect to the IAU1980 Nutation theory ($dpsi$ and $deps$) and the IAU 2000 Resolutions (dX and dY), beginning on 1 January 2003.

ProductType : TextAndTables

Format : ASCII

Documentation : <http://nciers.obspm.fr/eoppc/bul/bulb/explanatory.html>
<ftp://maia.usno.navy.mil/ser7/readme.bulle>
<http://maia.usno.navy.mil/>

Title : IERS Bulletin A Volume XVII Number 016

Data : - DUT1 (sec), TAI-UTC (sec) (section 1)
 - x ("), y ("), UT1-UTC (sec) and their errors (section 2)
 - Predictions for x ("), y ("), UT1-UTC (sec) (section 3)
 - $dpsi$, $deps$, dX , dY (msec of arc) and their errors (section 4)

DataMode : SERIES (for section 2, 3, 4)

DataPoints : section 1 = 3, section 2 = 7, section 3 = 365, section 4 = 22

TimeStart : section 2 = 2004-04-16, section 3 = 2004-4-23

TimeEnd : section2 = 2004-04-22, section3 = 2005-4-22

Timeintervall : 1 day

Accuracy : Section 2: x ["]: .00003, y ["]: .00003, UT1-UTC [s]: .000006
 Estimated, c.f. Documentation
 Section 4: [msec. of arc] $dpsi$: .32, $deps$: .15, dX : .127, dY : .151

Nutzerschnittstelle: Produktinformationen (2)



Suchen Sie hier nach einer Webseite:

Adresse: C:\Dokumente und Einstellungen\schwemga\Eigene Dateien\geo\BulletinA_V16.html

data. This involves the application of systematic corrections and statistical weighting. The results are published with a delay of about one to three days between the date of publication and the last available date with estimated EOP.

3. Predictions of x, y, and UT1-UTC, up to 365 days following the last day of data. The predictions use similar algorithms based on seasonal filtering and autoregressive processing for x, y, and UT1.

4. The combination series for the celestial pole offsets. Bulletin A contains celestial pole offsets with respect to the IAU1980 Nutation theory (dpsi and deps) and the IAU 2000 Resolutions (dX and dY), beginning on 1 January 2003.

ProductType : TextAndTables
Format : ASCII
Documentation : <http://hpiers.obspm.fr/eoppp/bul/bulb/explanatory.html>
ftp://maia.usno.navy.mil/ser7/readme_bulla
<http://maia.usno.navy.mil/>

Title : IERS Bulletin A Volume XVII Number 016
Data : - DUT1 (sec), TAI-UTC (sec) (section 1)
 - x ("), y ("), UT1-UTC (sec) and their errors (section 2)
 - Predictions for x ("), y ("), UT1-UTC (sec) (section 3)
 - dpsi, deps, dX, dY (msec of arc) and their errors (section 4)

DataMode : SERIES (for section 2, 3, 4)
DataPoints : section 1 = 3, section 2 = 7, section 3 = 365, section 4 = 22
TimeStart : section 2 = 2004-04-16, section 3 = 2004-4-23
TimeEnd : section2 = 2004-04-22, section3 = 2005-4-22
TimeIntervall : 1 day
Accuracy : Section 2: x ["]: .00003, y ["]: .00003, UT1-UTC [s]: .000006
 Estimated, c.f. Documentation
 Section 4: [msec. of arc] dpsi: .32, deps: .15, dX: .127, dY: .151

Keywords : EOP, Rapid, Bulletin A, Earth orientation parameter, Volume XVII, Number 016
Frequency : weekly
Source : <ftp://maia.usno.navy.mil/ser7/ser7.dat>
CreatedBy : IERS Rapid Service Prediction Centre
Date : 2004-04-22
Contact : ser7@maia.usno.navy.mil
Distribution : E-Mail, Mail, Download
E-MailSubscription : <http://maia.usno.navy.mil/>

Volume : XVII
Number : 016

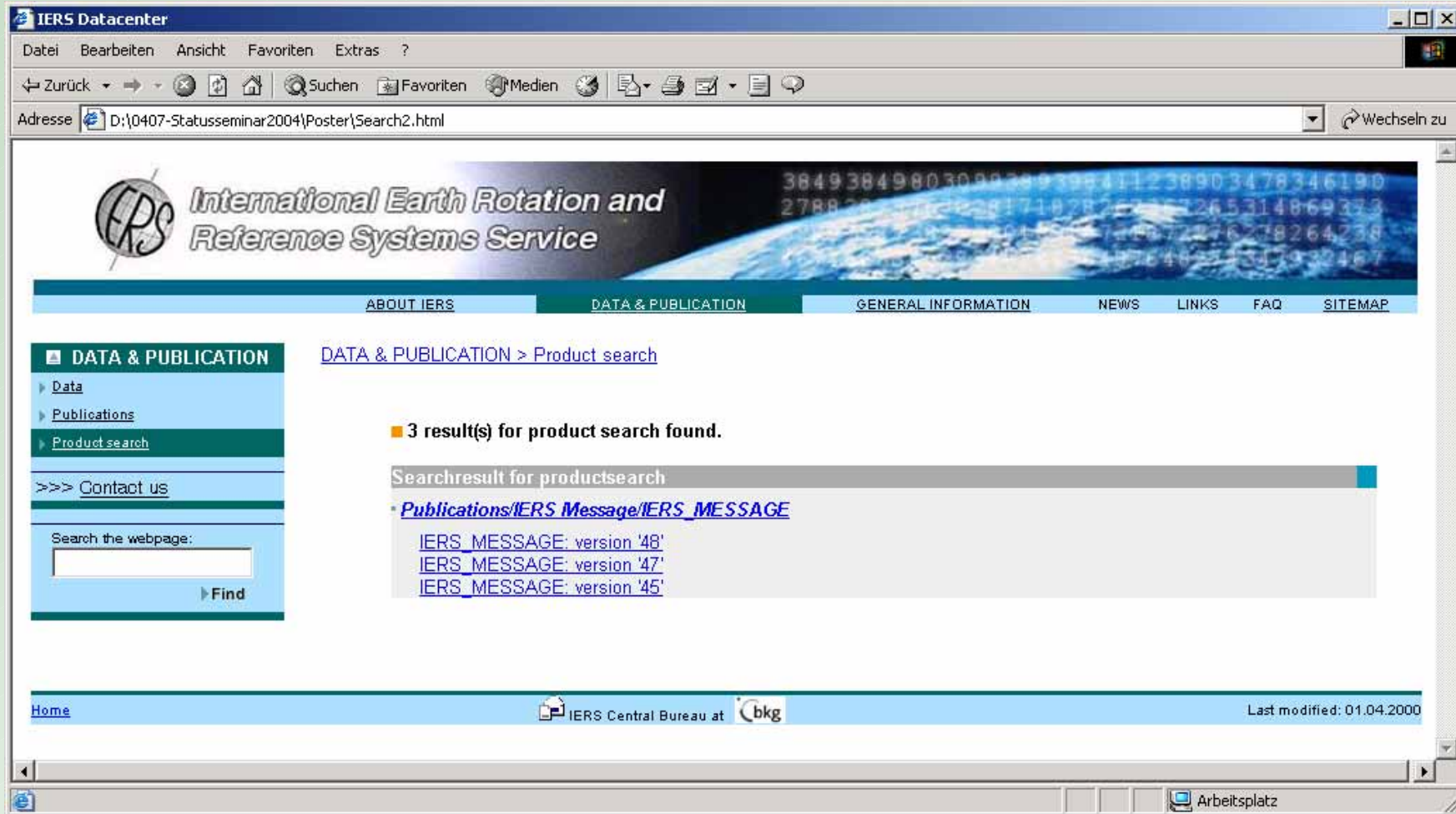
Available downloads : [original file \[unvalidated\]](#)
[HTML-format](#)
[Original format \(validated\)-format](#)
[PDF-format](#)

Home IERS Central Bureau at bkg Last modified: 01.04.2000

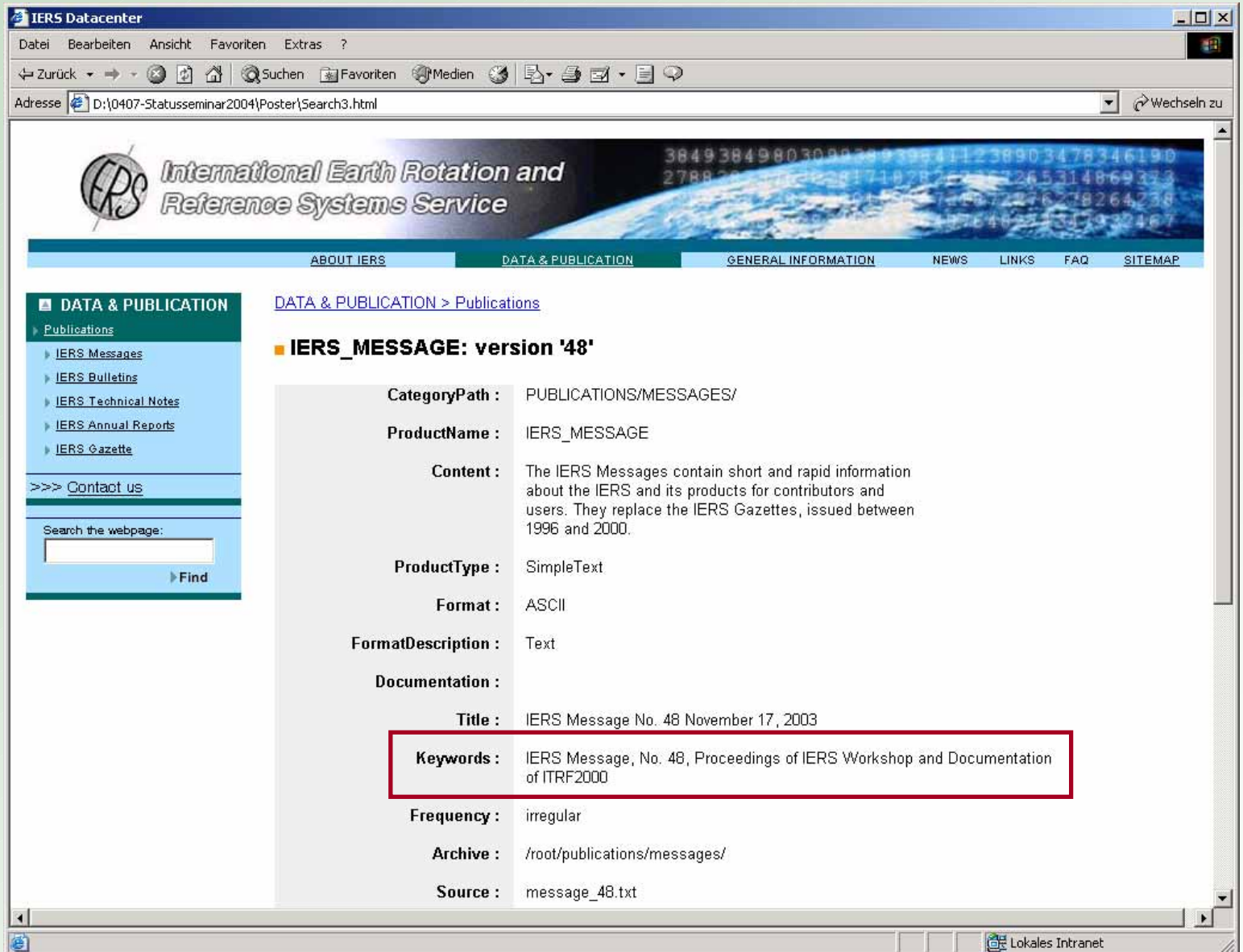
Nutzerschnittstelle: Suche (1)

The screenshot shows a web browser window titled "IERS Datacenter". The address bar contains "D:\0407-Statusseminar2004\Poster\Search1.html". The page header features the IERS logo and the text "International Earth Rotation and Reference Systems Service". A navigation menu includes "ABOUT IERS", "DATA & PUBLICATION", "GENERAL INFORMATION", "NEWS", "LINKS", "FAQ", and "SITEMAP". The "DATA & PUBLICATION" section is active, showing a breadcrumb "DATA & PUBLICATION > Product search". A search form is titled "Search the versions of product 'IERS_MESSAGE'". It includes a "Product" dropdown set to "IERS_MESSAGE", three "Meta field" dropdowns (the first is "Keywords"), and three "value" input fields (the first contains "Workshop"). There are radio buttons for "combine with AND" and "OR". A "Date created" field contains ">01.01.2003" and a "Fulltext" field is empty. At the bottom of the form are "Search versions" and "Reset fields" buttons. The footer of the page includes "Home", "IERS Central Bureau at bkg", and "Last modified: 01.04.2000".

Nutzerschnittstelle: Suche (2)



The screenshot shows a web browser window titled "IERS Datacenter" with the address bar containing "D:\0407-Statusseminar2004\Poster\Search2.html". The website header features the IERS logo and the text "International Earth Rotation and Reference Systems Service". A navigation menu includes "ABOUT IERS", "DATA & PUBLICATION", "GENERAL INFORMATION", "NEWS", "LINKS", "FAQ", and "SITEMAP". The "DATA & PUBLICATION" section is active, showing a breadcrumb trail "DATA & PUBLICATION > Product search". A sidebar on the left contains a "Find" button and a search input field. The main content area displays "3 result(s) for product search found." and a search result for "Publications/IERS Message/IERS_MESSAGE" with three entries: "IERS_MESSAGE: version '48'", "IERS_MESSAGE: version '47'", and "IERS_MESSAGE: version '45'". The footer includes a "Home" link, "IERS Central Bureau at bkg", and "Last modified: 01.04.2000".



The screenshot shows a web browser window displaying the IERS Datacenter website. The browser's address bar shows the URL: D:\0407-Statusseminar2004\Poster\Search3.html. The website header includes the IERS logo and the text "International Earth Rotation and Reference Systems Service". A navigation menu contains links for "ABOUT IERS", "DATA & PUBLICATION", "GENERAL INFORMATION", "NEWS", "LINKS", "FAQ", and "SITEMAP".

The main content area is titled "DATA & PUBLICATION" and shows a breadcrumb trail: "DATA & PUBLICATION > Publications". A sidebar on the left lists various publication types: "IERS Messages", "IERS Bulletins", "IERS Technical Notes", "IERS Annual Reports", and "IERS Gazette". Below this is a search box with the text "Search the webpage:" and a "Find" button.

The search results display a single entry: "IERS_MESSAGE: version '48'". The details for this entry are as follows:

- CategoryPath :** PUBLICATIONS/MESSAGES/
- ProductName :** IERS_MESSAGE
- Content :** The IERS Messages contain short and rapid information about the IERS and its products for contributors and users. They replace the IERS Gazettes, issued between 1996 and 2000.
- ProductType :** SimpleText
- Format :** ASCII
- FormatDescription :** Text
- Documentation :**
- Title :** IERS Message No. 48 November 17, 2003
- Keywords :** IERS Message, No. 48, Proceedings of IERS Workshop and Documentation of ITRF2000
- Frequency :** irregular
- Archive :** /root/publications/messages/
- Source :** message_48.txt

The "Keywords" field is highlighted with a red rectangular box. The browser's status bar at the bottom indicates "Lokales Intranet".

- Das neue IERS Datenbank und Informationssystem läuft zur Zeit im Testmodus.
- Die Verwendung von XML und entsprechender Standards und Tools erleichtert den Datenaustausch und erlaubt dem Nutzer die Daten in verschiedenen Formaten auszugeben.
- Die Verwendung von Metadaten ermöglicht die Suche nach spezifischen Daten und die Anbindung an Metainformationssysteme.
- Durch die Verwaltung dynamischer Informationen in Datenbanken wird die Konsistenz der Informationen innerhalb des Informationssystems garantiert.

- Das System soll Ende 2004 operationell laufen.
- Anpassung der Metadatenätze an die ISO-Standards, um ihre Integration in MIS (z.B. GeoMIS.Bund) zu ermöglichen und so den Nutzerkreis zu erweitern:
 - ISO 19115: Metadata
 - ISO 19139: Metadata – XML schema implementation
- Weitere Tools für die Kombination und Darstellung der Produkte müssen erstellt werden ...