UNITED NATIONS
DEPARTMENT OF ECONOMIC
AND SOCIAL AFFAIRS
STATISTICS DIVISION

ANDEAN COMMUNITY
GENERAL SECRETARIAT

UNITED NATIONS
ECONOMIC COMMISSION FOR
LATIN AMERICA AND THE
CARIBBEAN

Regional Workshop on Country Practices in Compilation of International Merchandise Trade Statistics, 7-11 May 2007, Lima

Agenda item No. 13: Web Publishing
Background Document
Language: English

DISSEMINATION TOOLS AND POLICIES OF INTERNATIONAL ORGANIZATIONS

Report presented at the Task Force on International Merchandise Trade Statistics, Rome 17-19 April 2007, by

United Nations Statistics Division (UNSD)

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TRADE STATISTICS BRANCH

TASK FORCE ON INTERNATIONAL MERCHANDISE TRADE STATISTICS
Rome, 17-19 April 2007
item 6(e) of the provisional agenda

Dissemination tools and policies of international organizations

Report by UNSD

1. This report focuses on transfer of data from the UN Comtrade database to other international agencies. Specifically, it describes the non-standard way of data transfer by UN Comtrade Web Services. The report does not deal with dissemination policies per se. As a background document, UNSD posted its "Policy of dissemination of UN Comtrade data" on the EDG.

2. UNSD offers several ways of downloading data from its UN Comtrade database. The most efficient is the batch submission which allows for downloading of compressed files with up to 25 million records per data extraction. Annex 1[1] gives a ranking of institutes by number of downloaded UN Comtrade records (using standard Batch or direct download of data) between 1 January 2006 and 1 April 2007. The World Bank and Eurostat make the top 10 with UNCTAD (at 11) and OECD (14) just thereafter. This annex shows the top 52 institutes each of which extracted more than 100 million records in this time period, for a combined total of almost 50 billion records.

3. Even though the standard ways of download and transfer are good enough to satisfy the needs of most users, some of the international agencies and a few other institutes required further automation to efficiently transfer large amount of data to their own servers on a regular basis.

4. As part of streamlining the data exchange process, UNSD designed Web Services for the UN Comtrade system (called UN Comtrade WS) which went into operation in January 2005. UN Comtrade WS offers straightforward data dissemination via internet medium and enables automatic data synchronization between UN Comtrade and other databases.

[1] **Annex 1 is given in document "TF07_item_6e_UNSD - Download Usage UN Comtrade.pdf"**

5. UN Comtrade WS offers two data formats: Element based XML and SDMX (Statistical Data and Metadata Exchange). Element based XML is the simplest XML format which does not offer clear separation between data and metadata (see Annex 2). SDMX offers a complete package of data transfer including tighter integration between data and metadata (such as reference tables). See Annex 3 for an example of SDMX data transfer. The SDMX format needs to be structured beforehand (with specification of the so-called Key Family) and allows for more complex data transfer than element based XML.

6. Up until now, UN Comtrade WS uses REST (Representative State Transfer) which by-passes additional header information. This results in faster response (especially for on-the-fly compression), but requires the user to have enough programming skills and knowledge to enter all necessary parameters.

7. For that reason UNSD constructed its so-called Comtrade Tools which assists the user to download data without much programming. International organizations like World Bank and OECD have successfully been using Comtrade Tools over the last year, as is shown in the usage statistics hereafter.

Usage Statistics

8. The total number of records downloaded via UN Comtrade WS since January 2005 can be broken down by type of data transfer and by organization (see tables below). The most used type is SDMX (used by the World Bank and OECD) followed by (XML based) ECLACTRADE (used by ECLAC) and standard Element based XML. The fourth procedure (MATRIX) is an internal UNSD procedure used for construction of the World Export Matrix. World Bank clearly leads in use of UN Comtrade WS.

Output Format	**Number of Downloaded Records**
SDMX	8,638,216,384
MATRIX	135,013,494
Element based XML	87,404,048
ECLACTRADE[2]	13,586,699

Organization	**Number of Downloaded Records**
World Bank	7,161,693,943
OECD	905,810,313
United Nations	773,667,535
ECLAC	26,075,569
WTO	2,612,582
ECOWAS	2,538,502

[2] The ECLACTRADE number is smaller than the others because the ECLAC application pulls aggregated data and not basic raw data. ECLACTRADE submits a rather high number of data queries with a relative low number of downloaded records.

9. The download of data via WS mentioned in the previous paragraph concerns download of (Internet based) UN Comtrade data. WS is also used for downloads of original and processed (but not yet published) data, which UNSD uses in its exchange of data with OECD. Finally, WS is used for transfer of the so-called Tariff line data. These data are processed data where commodity and country nomenclature is kept at its (standard but) most detailed level. A breakdown of Tariff line records transferred via WS to the international agencies is as follows:

Organization	**Number of downloaded Tariff records**
WTO	1,914,334
FAO	3,978
OECD	336
UN	55,403,686
UNCTAD	61,459,881
World Bank	1,104,660,531

Future Work

10. SDMX 2.0 had been released (see http://www.sdmx.org) and it is expected not to have another major revision soon. Because UN Comtrade SDMX is still on version 1.0, it needs to be upgraded to be compliant with SDMX 2.0

11. Even though UN Comtrade WS has been used on a regular basis by World Bank, OECD and ECLAC, the Comtrade Tools could be made more user-friendly and some bugs need to be fixed. It has, therefore, been informally decided that Comtrade Tools will be upgraded (to version 2.0) as a cooperative effort between UNSD and the World Bank. This upgrade could lead to increased use of this tool by other organizations. Task Force members who are interested could help in defining additional functionality for Comtrade Tools 2.0.

Annex 2
The SDMX Output Format

```
-<CrossSectionalData>
  -<Header>
     <ID>UN312927728</ID>
     <Test>true</Test>
     <Truncated>false</Truncated>
     <Prepared>2007-03-19T11:39:39</Prepared>
    -<Sender id="UN">
       <Name xml:lang="en">United Nations</Name>
     </Sender>
     <KeyFamilyRef>UN_COMTRADE_H1</KeyFamilyRef>
     <DataSetID>01</DataSetID>
     <DataSetAction>Update</DataSetAction>
     <Extracted>2007-03-19T11:39:39</Extracted>
   </Header>
  -<uncs:DataSet>
    -<uncs:Group RPT="36" time="2002" CL="H1" UNIT_MULT="1" DECIMALS="1" CURRENCY="USD"
        FREQ="A" TIME_FORMAT="P1Y" REPORTED_CLASSIFICATION="H2" FLOWS_IN_DATASET="MX">
      -<uncs:Section TF="1" REPORTED_CURRENCY="AUD" CONVERSION_FACTOR="0.544675"
          VALUATION="FOB" TRADE_SYSTEM="General" PARTNER="Origin">
         <uncs:Obs CC-H1="TOTAL" CC-ID="6473" PRT="0" netweight="0" qty="0" QU="1"
           value="69240511327" EST="0" HT="1"/>
       </uncs:Section>
      -<uncs:Section TF="2" REPORTED_CURRENCY="AUD" CONVERSION_FACTOR="0.544511"
          VALUATION="FOB" TRADE_SYSTEM="General" PARTNER="Last Known Destination">
         <uncs:Obs CC-H1="TOTAL" CC-ID="6473" PRT="0" netweight="0" qty="0" QU="1"
           value="65007973177" EST="0" HT="1"/>
       </uncs:Section>
     </uncs:Group>
   </uncs:DataSet>
 </CrossSectionalData>
```

Annex 3

Element Based XML Output Format

```
-<Comtrade>
  -<r>
     <pfCode>H1</pfCode>
     <yr>2002</yr>
     <rgCode>1</rgCode>
     <rtCode>36</rtCode>
     <ptCode>0</ptCode>
     <cmdCode>TOTAL</cmdCode>
     <cmdID>6473</cmdID>
     <qtCode>1</qtCode>
     <TradeQuantity>0</TradeQuantity>
     <NetWeight>0</NetWeight>
     <TradeValue>69240511327</TradeValue>
     <estCode>0</estCode>
     <htCode>1</htCode>
   </r>
  -<r>
     <pfCode>H1</pfCode>
     <yr>2002</yr>
     <rgCode>2</rgCode>
     <rtCode>36</rtCode>
     <ptCode>0</ptCode>
     <cmdCode>TOTAL</cmdCode>
     <cmdID>6473</cmdID>
     <qtCode>1</qtCode>
     <TradeQuantity>0</TradeQuantity>
     <NetWeight>0</NetWeight>
     <TradeValue>65007973177</TradeValue>
     <estCode>0</estCode>
     <htCode>1</htCode>
   </r>
 </Comtrade>
```

Annex 1:

“Download Usage UN Comtrade”

Number of downloaded records by user/organization (2006/2007):	
1	
Merge Global, Arlington, USA	9,659,364,568
2	
Institute of Developing Economies (IDE)--Chiba City, Japan	3,501,027,410
3	
USDA - Markets and Trade Division, USA	3,184,717,949
4	
World Bank	2,921,182,400
5	
Global Security Research Institute of Keio University, Japan	2,091,446,670
6	
CEPII - Paris, France	1,648,522,298
7	
National Maritime Research Institute - TOKYO, JAPAN	1,645,172,617
8	
EUROSTAT - Luxembourg	1,395,457,721
9	
International Trade Foundation, Franlin, USA	1,206,740,587
10	
US Department of Commerce - Washington, DC, USA	964,056,919
11	
Harvard Business School - Institute for Strategy and Competitiveness - USA	901,468,027
12	
ICEX, Madrid, Spain	847,002,615
13	
UNCTAD - Geneva, Switzerland	795,522,840
14	
OECD - Paris, France	701,831,675
15	
Wageningen University - Wageningen, NL	650,734,547
16	
Central Intelligency Agency, Mc Lean, USA	644,431,526

Number of downloaded records by user/organization (2006/2007):	
17	
UNIDO - Vienna, Austria	613,873,605
18	
Dept Agriculture Fish Forestry - DAFF - Australia	595,750,468
19	
Center for Stategic Research (Center for Stategic Research)	504,134,271
20	
McGill University User - Montreal, Canada	481,964,712
21	
Fraunhofer Institute for Systems und Innovation Research, Germany	479,765,194
22	
The Commission for Export Promotion, Peru	468,409,218
23	
Austrian Institute for Economic Research - Vienna, Austria	464,211,330
24	
Korea Institute for International Economic Policy - Seoul, Korea Rep	456,709,395
25	
Nat. Center of Education (NCEE) - Washington DC, USA	448,970,273
26	
China Europe International Business School, China	446,006,056
27	
INRA, France	423,955,354

Number of downloaded records by user/organization (2006/2007):	
28	
NATIONAL INST OF ENVIRONMENTAL STUDIES - IBARAKI JAPAN	421,557,375
29	
ECLAC- Santiago, Chile	411,320,668
30	
ITC - Geneva, Switzerland	388,896,365
31	
United Nations - NY, USA	324,693,350
32	
YALE UNIV - Yale, USA	312,319,833
33	
Research Inst Econ, Trade & Industry (RIETI) - Japan	298,819,779
34	
University of California - Davis CA, USA	268,103,086
35	
New York University- NY, USA	260,932,228
36	
Columbia University, New York, USA	260,352,657
37	
UNCTAD - Nelly Berthault, Geneva, Switzerland	244,126,331
38	
London School of Economics - London, UK	233,040,856
39	
Basque Institute of Competitiveness- Duesto Found - Spain (?)	226,047,497
40	
HARVARD UNIVERSITY LIBRARY- USA	214,907,078
41	
Princeton University- USA	212,891,878
42	
Global Trade Information Service - USA	197,123,537
43	
CONF NACIONAL DA INDUSTRIA-CNI - FOREING TRADE UNIT - COMEX - BRASILIA - BRAZIL	195,130,989

Number of downloaded records by user/organization (2006/2007):	
44	
University of British Columbia - Canada	192,600,585
45	
Banco de Mexico, Mexico	187,017,125
46	
Consumer Electronics Association, USA	181,434,276
47	
MINST RELACIONES EXTERIORES	163,275,168
48	
University of Colorado - USA	149,200,131
49	
Australian National University- Canberra, Australia	128,834,176
50	
WTO - Geneva, Switzerland	123,460,625
51	
Association National Financial Institutions- ANIF- BOGOTA COLOMBIA	110,981,614
52	
UNIV OF CALIFORNIA SAN DIEGO, LA JOLLA - USA	110,416,161
Total of Top 52 Institutes	**43,959,913,613**