Task:

Create 3 applications: A,B (mandatory) plus C (optional) for distributed processing of data records from input file (XML).

Requirements:

1) Aplication A is **the only one application which has acceess** to a file with input data, this application is running in 1 instance only.
2) Application B can be run in many instances, every new instance should be started with parameter type={red,blue,green} passed as a command line paramter.
3) Each instance of application B receives data records **of specified "type" only,** which is matching "type" attribute in the records from input file.
4) Each instance of application B receives data records from application A only (it does not have access to input file).
5) Applications A,B,C can be run on same machine or on different machines in same network (so apps should be able to **comunicate through network**).
6) Application A is running all the time.
7) Applications B (any instance) can be started before or after A, and **can be closed and restarted any time, but this should not affect on final delivery of data** from A to B.
8) If any instance of application B was closed and restarted and before this it received and displayed some values it **should not display those values again after restart**.
9) There can be several instances of application B running for same type of records (e.g. 3 applications B can receive records of type=red), in this case data records from input file **should be shared** between instances of application B and **should not be repeated**/duplicated in different instances of application B.
   For example if there are 2 instances of application B both receiving records of type=red and if there are 2 records in input file:
   <record Value="1" type="red"/> <record Value="2" type="red"/> then if B1 received and displaed Value="1" B2 should not receive and display it.
10) All applications should be coded using **C#** (.NET 2.0, 3.5, ...) and using ASP.NET(C#) for application C.
11) All applications should be able to work in 2 modes: **"fast" and "slow"** (configurable or specified by cmd.line parameter).
    In "fast" mode application A reads and processes all input data instantly (same apply for applications B and C).
    In slow mode application should simulate delay in processing (e.g. Sleep(1second) for every record processed).
12) Applications **should not use any RDBMS** for sharing/transfering data records (so no MSSQL, no MSACCESS, no ORACLE, no MySql, ...).
13) Data values should be "streamed" from A to B (or "pulled" by B from A) 1 by 1. ALL data records should NOT be transfered to B in single request/response.

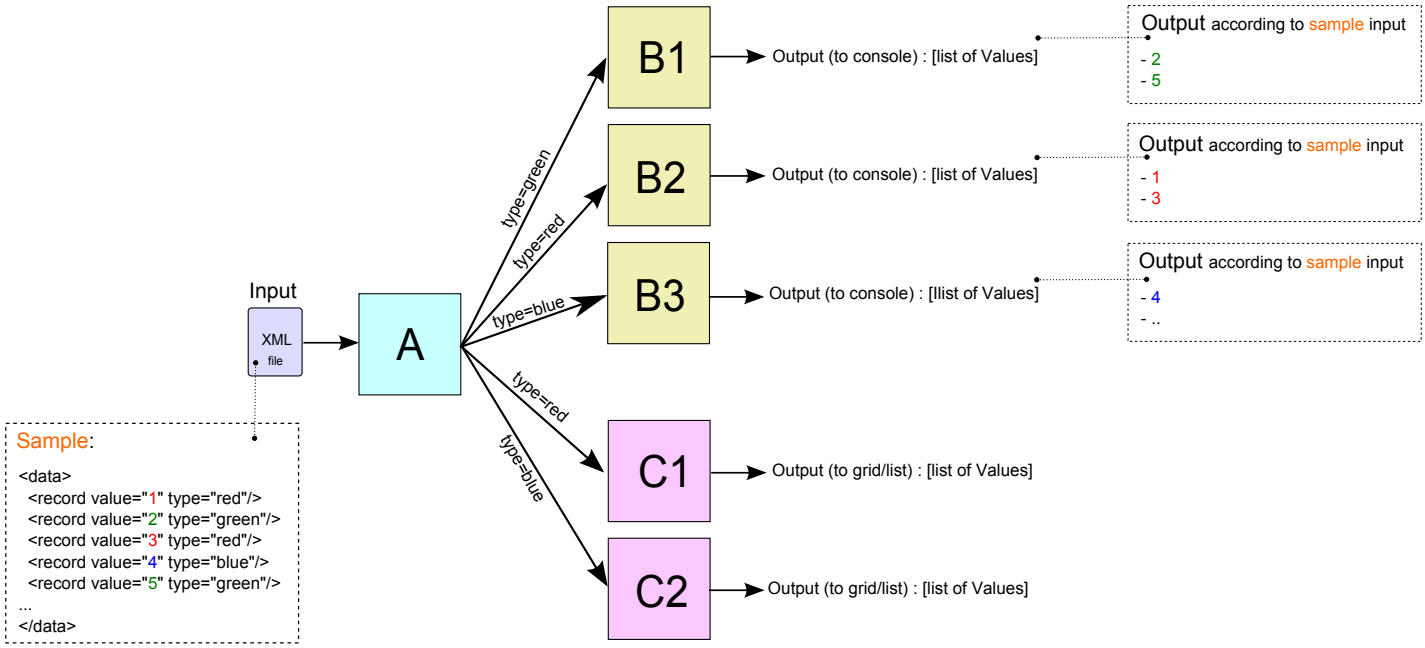
Optional requirements:

1) +1 point if application A can generate random XML with input data.
2) +2 points if created WEB application C (with same requirements as for console application B , see 1-12 above).
   Application C should have only one ASP.NET page.
   Application C can run in 1 instance but with multiple pages open for any type of records received (type to be specified thorugh QueryString parameter) with same rules of data acces and sharing applied as for application B.

Running and Deploying:

1) Input XML file can contain more than 1000 records
2) It should take minimum of our efforts to run all applications (I should not be installing any RDBMS or any Service Packs, etc.) just may be some few steps to make things work.
3) Finally we are expecting to receive from you 3 files:
   - **source.zip** (will contain 3 subfolders inside: A,B,C - with source code of each app. Can be with 1 solution file with 3 projects)
   - **bin.zip** (will contain 3 subfolders inside: A,B,C - with executables for each app.)
   - **readme.txt** (with your notes, intructions of extra steps, extra requirements for installation/running, etc.) In case you had alternative solution - mention it in this file.

Conceptual diagram



A - Console application which has access to input data (XML file) and which distributes data records to other applications according to [type] of records

B1,B2,... - Console applications which receives data records of specific type from application "A" printing "Value" attribute of the records to console

C1,C2,... - Web applications which receives data records of specific type from application "A" displaying "Value" attribute of the records to grid or to list on WEB page