Test of Iterative Solvers@ITBL

Goal

For Users: Tell the best solver to their problem without programming

For Researchers: Give a chance to evaluate their solvers by many data set

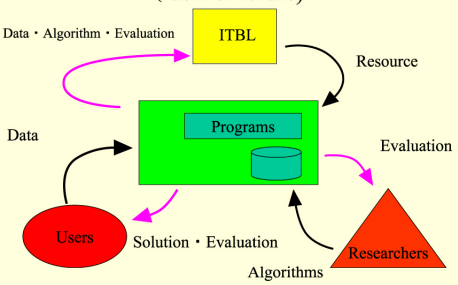
For ITBL: Give evaluation results of program and data

Requirements

- Public use with secure access (ITBL)
- Ease of Use
- General Sparse Matrix problem
- Krylov Subspace methods:
  * Real Unsymmetric Matrix (currently)
  * Without preconditioner (currently)
- Data should be a text format (i, j, $a_{i,j}$)
- Size of Data is no larger than 700MB (included in one CD-R, currently)

Economics

(ideal or future)



Algorithms for General Real Matrix

- BiCG
- CGS
- BiCGSTAB(k)
- GPBiCG
- GMRES(k)
- QMR
- GCR(k)
- Orthomin(k)

Simple way to use TIS@ITBL

To find the best solver for your Linear System
A $\boldsymbol{x} = \boldsymbol{b}$

1) Access http://www.itbl.jp/, then upload data **A** and $\boldsymbol{b}$.
2) Wait. Waiting time varies.
3) Access http://www.itbl.jp/, and get a solution $\boldsymbol{x}$ and a comparison of algorithms.

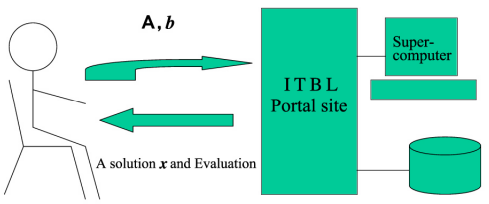
Sales talk:

This system provides a new public service via internet such as Netlib, MatrixMarket, or google.

- Internet access is needed
- Problem (Data) is needed
- No solver (Program) is needed
- No charge
- No knowledge

* Currently under construction

Test of Iterative Solvers: Find the best solver to **A** $\boldsymbol{x} = \boldsymbol{b}$



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