

IMA Meeting
11 October 2001

Supplier Perspectives

IBEX Process Technologies
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Integration Description

- IBEX provides a neural net-based product family (maintenance advisor, control applications, etc.), and is therefore a consumer rather than a producer of metrology data
- Timely, accurate metrology information is vital for our products' performance

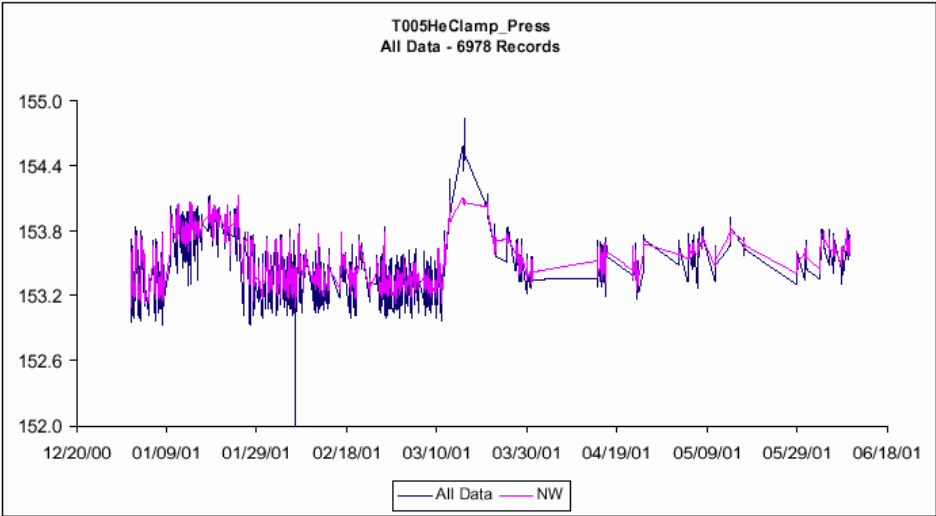


Summary of Results

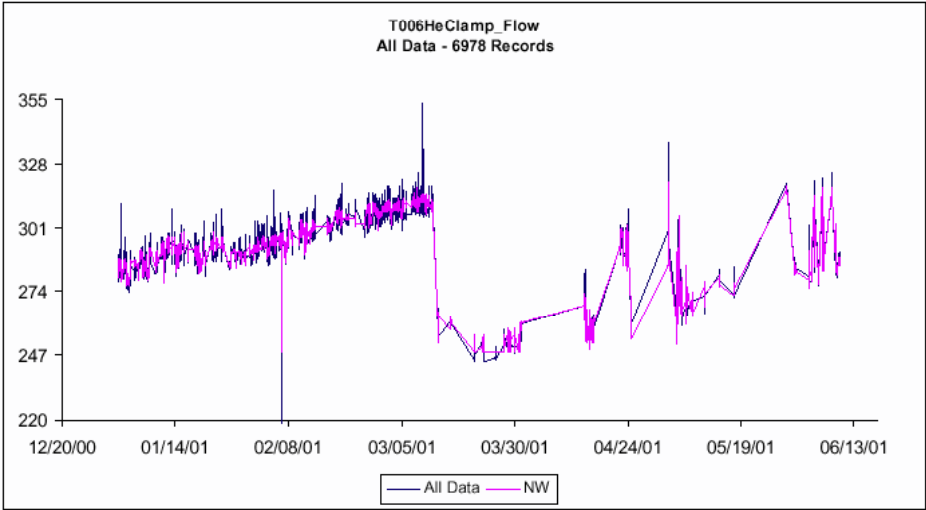
- See Jill Card's presentations from this conference
- These include validations of the neural net technology in IBM, Lucent/Agere, and STMicroelectronics facilities



IBEX Results

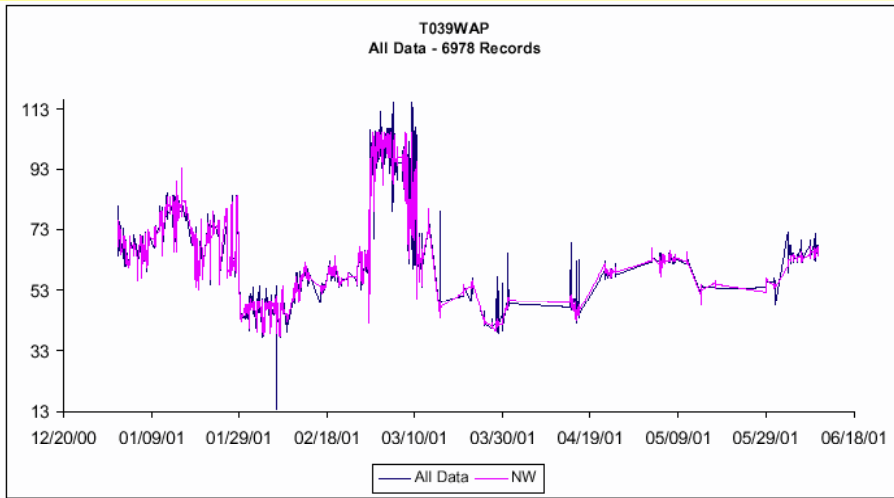


Average of $|(Obs. - Pred.) / Obs. | = 0.10\%$

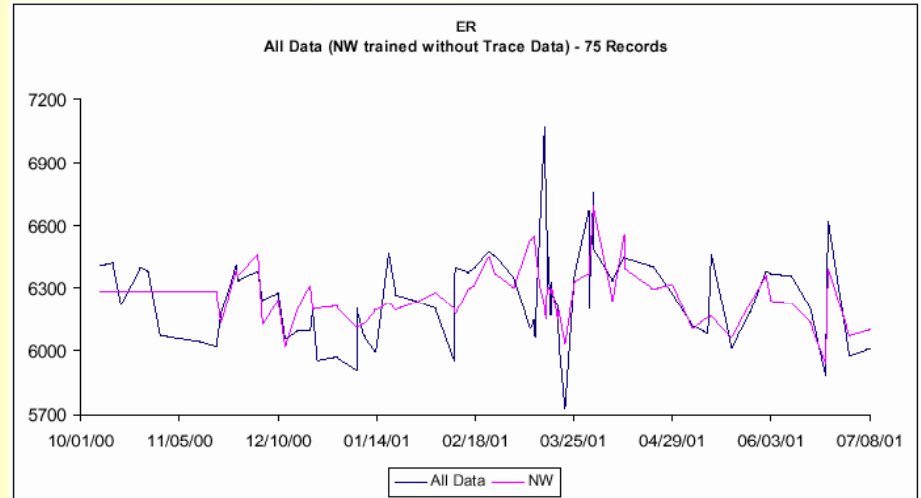


Average of $|(Obs. - Pred.) / Obs. | = 0.98\%$

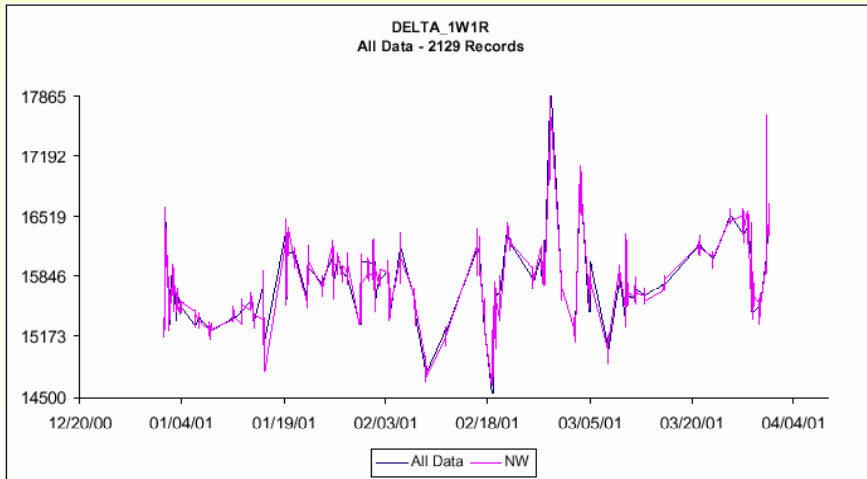




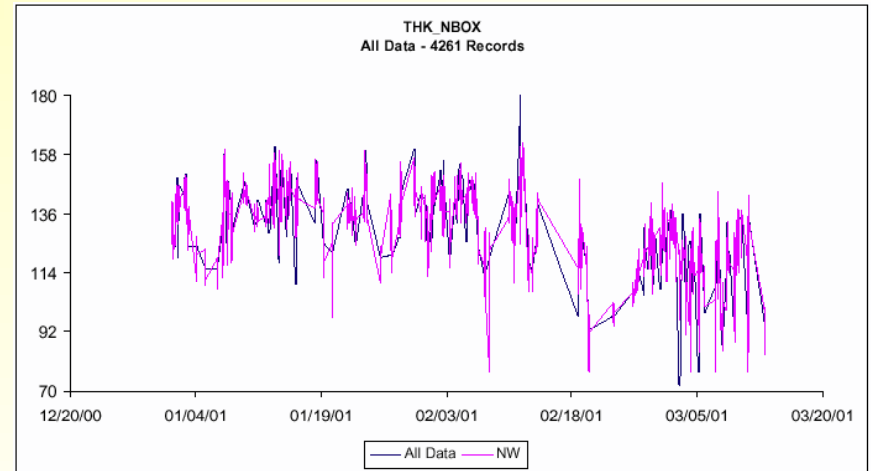
Average of $|(Obs. - Pred.) / Obs.| = 3.08\%$



Average of $|(Obs. - Pred.) / Obs.| = 2.27\%$



Average of $|(Obs. - Pred.) / Obs.| = 0.58\%$



Average of $|(Obs. - Pred.) / Obs.| = 5.92\%$



Limitations of Existing Standards

- Don't cover the key elements needed by our software
 - Data definitions (syntax, semantics)
 - Meaningful access
- What we had to do in lieu of useful standards....
 - Parse Brookside data files
 - Beg for fab-specific customized text files for ex-situ metrology and rf hours information
 - Manually comb through unformatted text logs for maintenance actions
 - Ugly....



Standards Needed

- Standardized access mechanisms and formats for:
 - Trace data (timestamp, context info (lot, slot, process id, recipe step, etc))
 - Metrology data (ex-situ and integrated)
 - Maintenance data (timestamps, process module/chamber, maintenance action (adjustment, replacement, etc.), personnel involved, other pertinent info)
 - Odometry data (timestamps of replacements actions, etc.) – we use this to calculate the effective age of key equipment components

