



**ISMI e-Manufacturing Workshop
Experience of EDA Interface Development
July 14, 2006
@SEMICON/West**

**Factory Integration Promotion Group
Marketing Dept.
Tokyo Electron Limited**



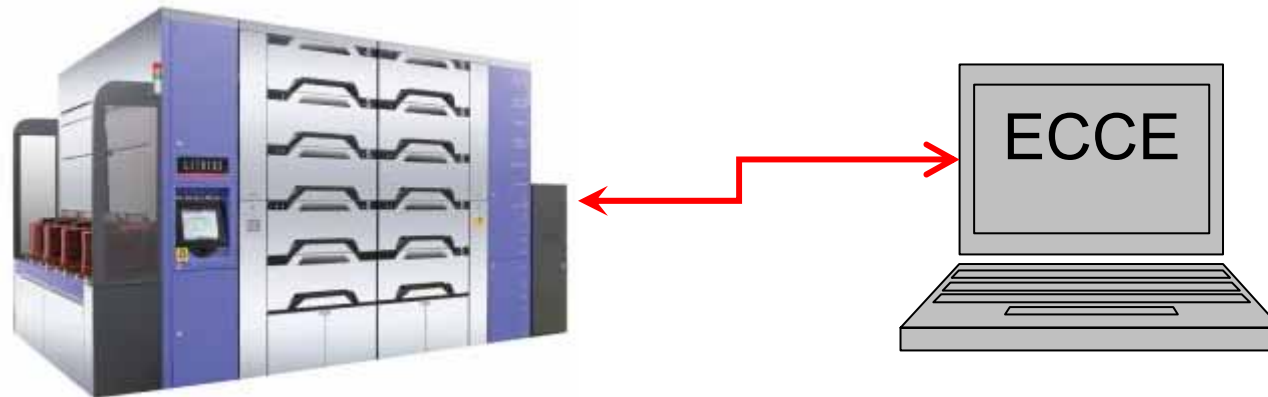
AGENDA

- **TEL's IF-A DEMO**
 - Performance = 20,000 VPS is Verified
 - Issue of Data Definition
 - Data Representation Guidelines?
 - Risk of XML Schema Revision
- **Role Sharing among EDA and GEM**
 - EDA Port Discussion
 - EES Analogy to Football Game
 - Data Report based on Hierarchical E.E.
- **Summary**



TEL's IF-A DEMO

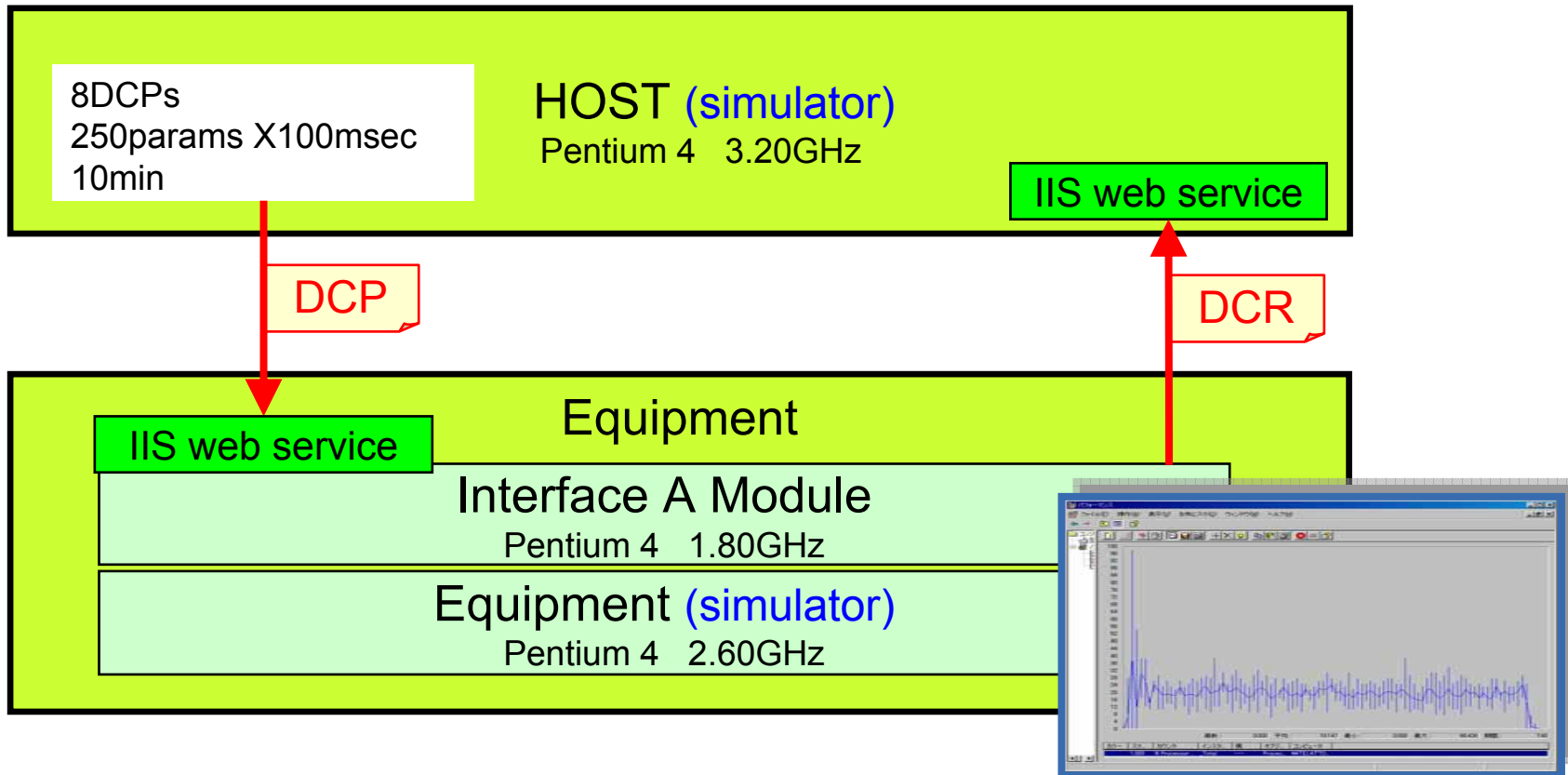
- **TEL Demonstrated IF-A in June 2006**
 - Verified the capability
 - On real equipment
 - With ISMI EDA Evaluation Method
 - Guests were from ISMI and the MCs



(ECCE = ISMI EDA Client Connection Emulator)

Performance = 20,000 VPS is Verified

- BY TEL internal test with ISMI's EDA Evaluation Methods

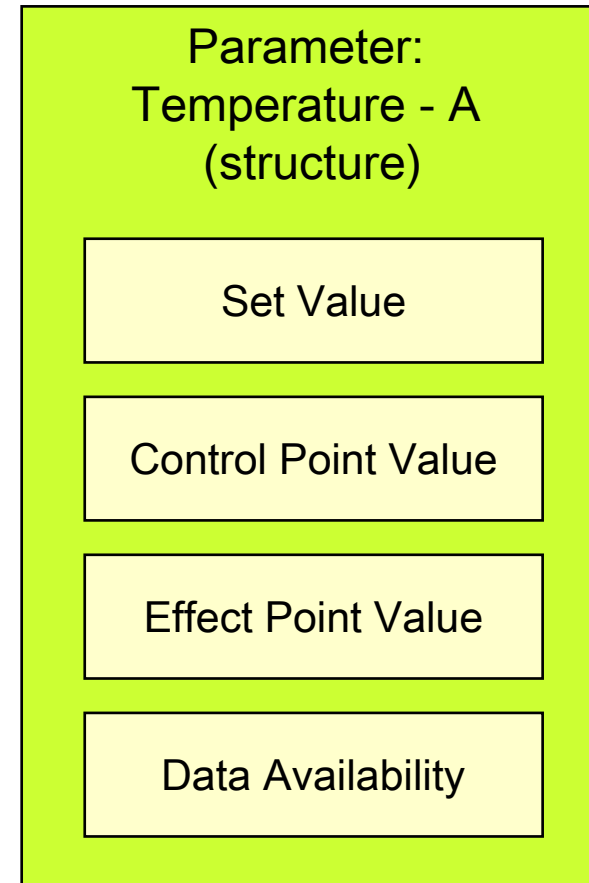
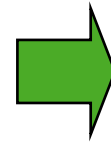


(VPS = Values Per Sec.)



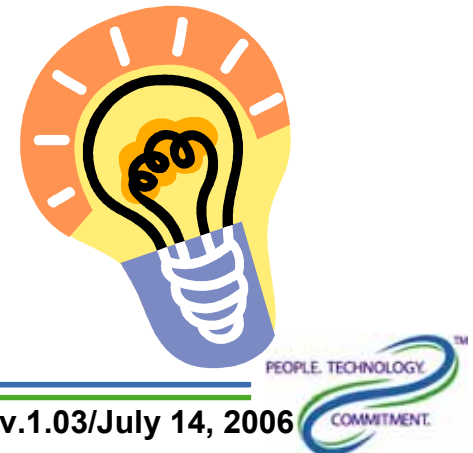
Issue of Data Representation

- One of Most Significant Discussion was → **FORMAT OF PARAMETER**
- **STRUCTURED DATA** is reported
- Does **EDA Client** accept the data?
 - May or May NOT?
- **EDA Clients** need accept the format
 - It is SEMI Standard COMPLIANT!
 - This will be typical equipment suppliers' expectation



Data Representation Guidelines?

- **Equipment Suppliers' Responsibility is;**
 - To select and define the data
 - The definition will be as implemented on the equipment
- **EDA Clients' Responsibility is;**
 - To decode the data for the application
- **Need to discuss Data Representation Guidelines**
 - To define how to represent the data
 - In SEMI Standard



Risk of XML Schema Revision

- **EDA Clients were not ready, except ECCE**
 - For ISMI XML Schema Revision Freeze
- **ISMI Revision Freeze is excellent idea!**
 - May need updated down the road;
for such as “node event”
- **Revision Update will impact Fab Productivity**
 - DOWNTIMES for updating and testing
- **Need strategy for the update**
 - Effort is required to minimize the impact on the productivity in entire industry
 - Users and suppliers need to be involved to make the decision



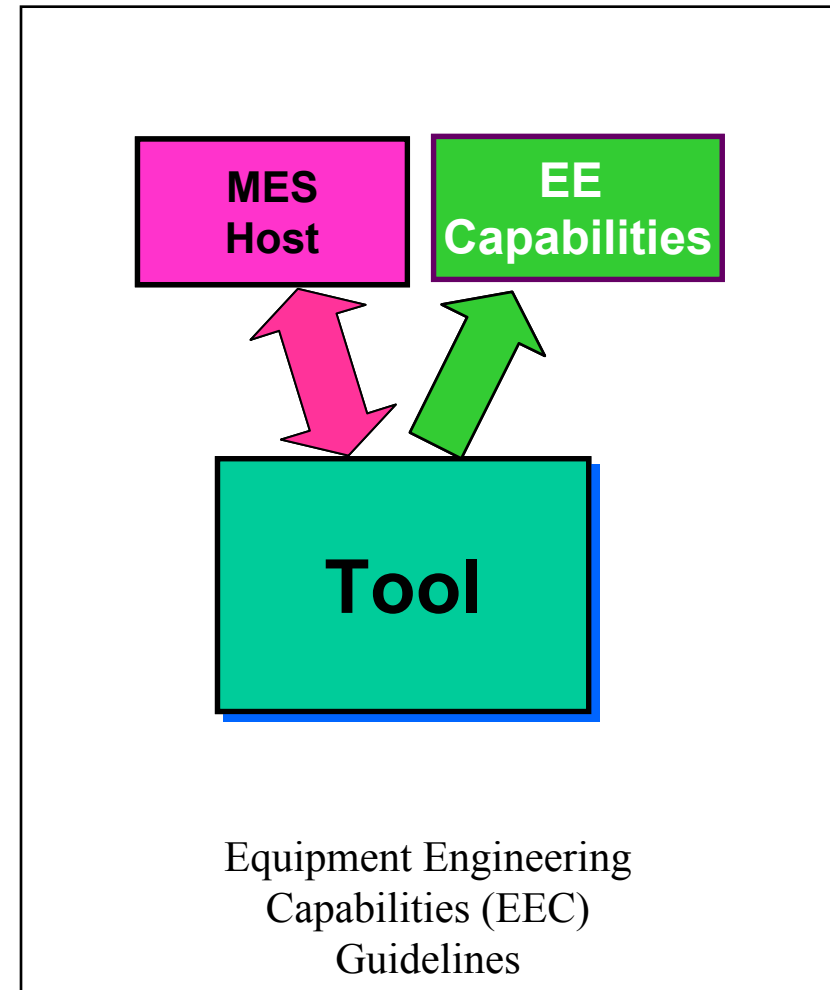
Role Sharing among EDA and GEM



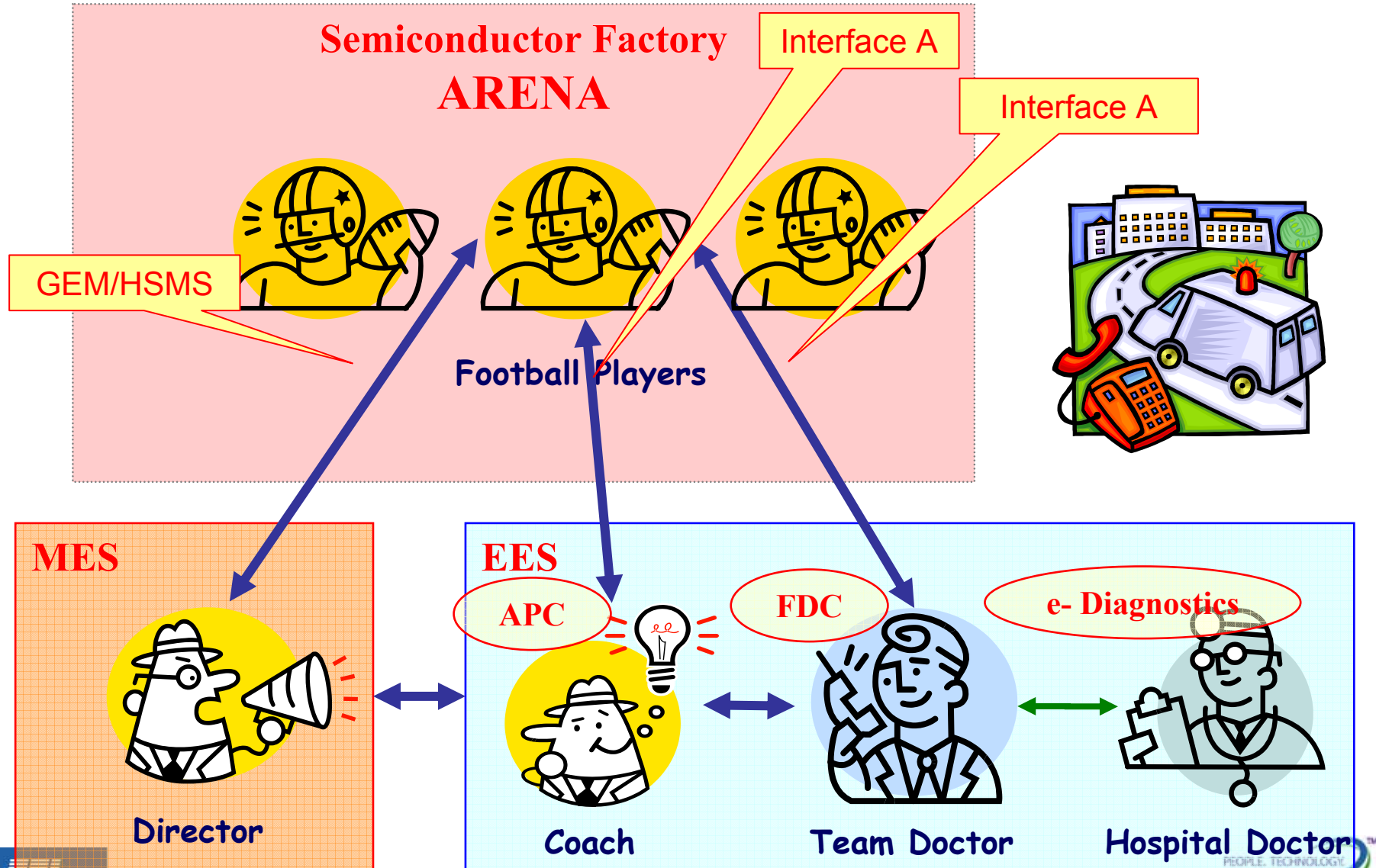
Remind Again!

This is important picture

- **Data from EDA port seems not much richer than GEM, so far**
 - A Discussion from the DEMO
- **But, EDA port is required for;**
 - Relaxing increasing MES burden
 - Easy, Faster and Flexible access to EE data
- **EDA is for the Evolution of Role Sharing of MES and EEC**
 - As defined by “EEC Guidelines”
 - EDA port can evolve into richer data provider
- **Revisit Discussion of EDA port use**



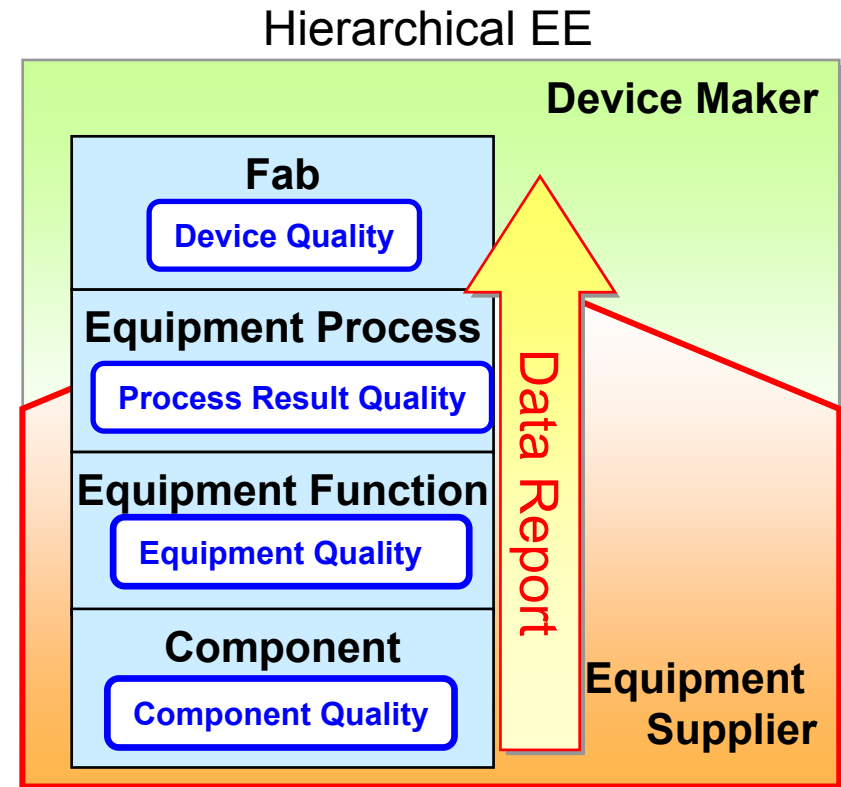
EES Analogy to Football Game



Data Report based on Hierarchical EE

- **Hierarchical EE(*) model**
 - Upper layers will be open for DM use
 - Lower layers will be for ES use
 - Middle Layers will be for the Collaboration
- **Now, the time to start the discussion**
 - Along with “EEC Guidelines”
 - → 6.1 Equipment Engineering Data Sharing ...

“Device Makers and Equipment Suppliers will collaborate in order to determine which data will be shared. “



Summary

- **TEL is ready for IF-A**
- **Need to discuss Data representation and XML Schema Update**
- **Hierarchical EE model should be referred for the data (role) sharing discussion**

