

EDA Needs

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IBM

INTERNATIONAL SEMATECH



Environmental Pressures and Some Motivations for Change

Large Process Complexity
+
2-3 Year Technology Nodes

Need to Focus Few Expert
Resources on Solving Issues
vs. Finding Data

Complex Equipment
Design
+
Fierce Competition for
Next Design Win

High Cost of Mis-
Processing (100's to
1000's of die)

Time to Money for Install,
Configure, & Qualification

Pay for Performance – High
Cost of Downtime

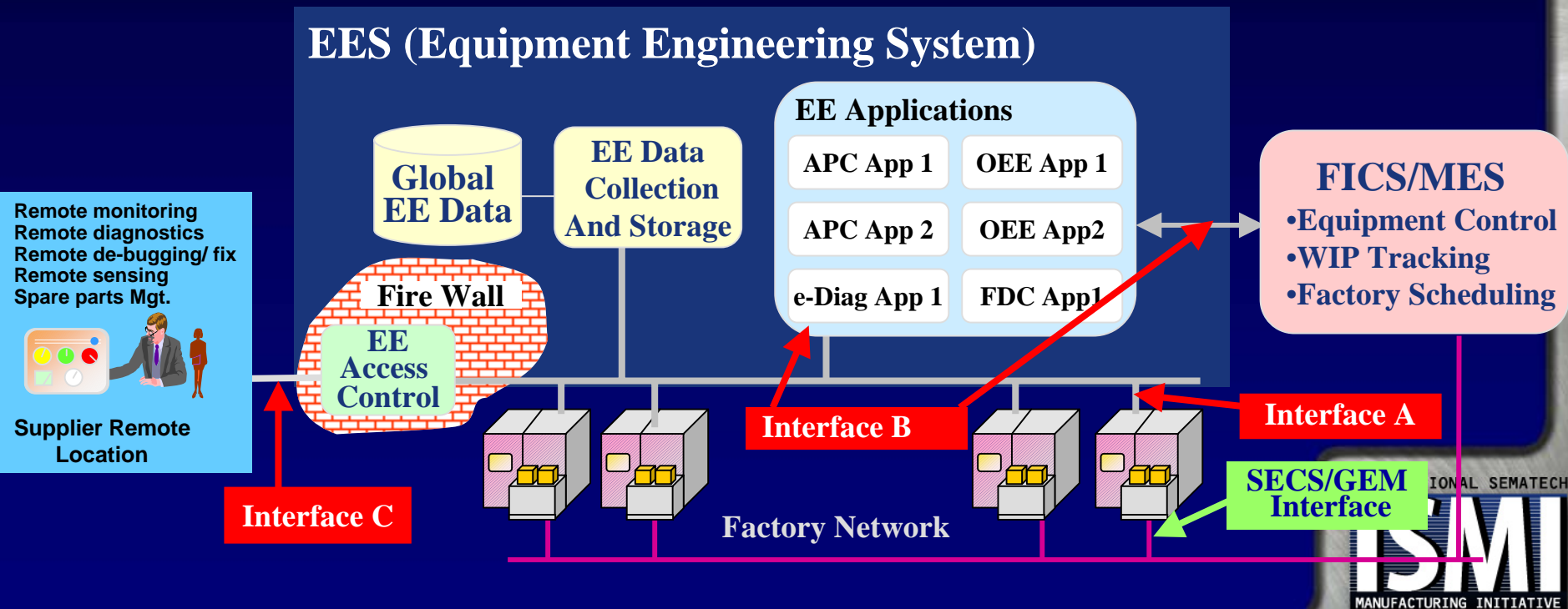
Innovation is Needed to Get the Right Data and have the Right
Tools to Meet the Complex Needs of Future Technology

EDA status today at IBM

- Requires equipment data acquisition
- Implemented e-Diagnostics data acquisition on 15 toolsets, 140 tools
- Does not allow tool specific servers to enable e-Diagnostics data acquisition in our 300 mm facility
- Allowing any available tool interface to provide e-Diagnostics data today
- Has single interface “Interface C” to move data in/out of the factory

What Areas Will EEC Standardize?

- **SECS/GEM** – Still the primary equipment control I/F
- **Interface A** – Equipment Engineering Data Interface
 - First Goal: More & better data from the equipment
- **Interface C** - External access to EEC (e-Diagnostics)
- **Interface B** – Among EEC applications and to FICS/MES

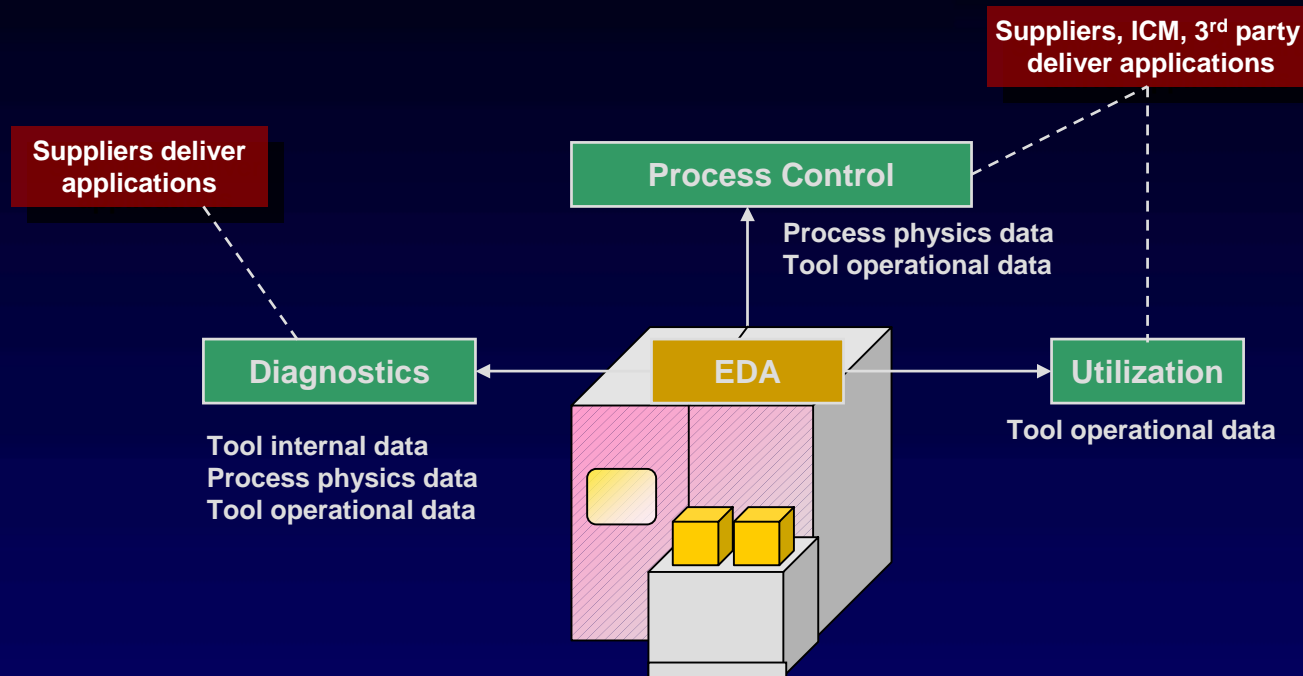


Where is IBM going

- Continue deployment of e-Diagnostics
- Will require full interface A standards
 - E120
 - E125
 - E132
 - E134
- Interface A data is used for
 - e-Diagnostics
 - APC
 - FDC
 - Process Engineering analysis
 - ...

EDA Role in Manufacturing

Diagram is Conceptual Only



- EDA refers to SEMI E120, E125, E132, and E134
 - Includes associated implementation specs like E120.1, 3719.1, 3720.1, 3721.1
 - ISMI MC's intend to use EDA as the Primary Data Pipe for all Equipment Data
 - Includes both Operational and Process Related Data
 - Includes Data Accessed Internally at the Factory and External from the Factory
- Both Internal Factory Applications and External Supplier Applications will Leverage the EDA Interface
 - Equipment e-Diagnostic Data Available External to the Factory will come from EDA
 - Equipment Data needed for Factory Applications will come from the EDA Interface