

# *e-Diagnostic Working Group Meeting*

## *June 29, 2000*

### e-Diagnostics Roadmap Discussion

Task	Timeframe
Define data to be shared	
Protocol Definition	
- Investigate SECS/GEM/HSMS alternative	
Hardware interface standardized	
- Identify data bandwidth requirements	
- Resolve single wire guideline	
Diagnostics data specifications from all sources	
- Identify methods/messages used for communicating data	
- Identify data compression technique	
Built in tool diagnostics	
- Existing standards compliance, i.e., E5 SECS II, E30 GEM, E37 HSMS, E58 ARAMS, E90 Substrate tracking, E94 Control job, E87 Carrier management, E40 Process job, E54 Sensor bus, E84 Carrier handoff/parallel I/O. (Retrofit applicable standards on legacy tools later).	
- Baseline MTTR	
Secure access modes	
- Evaluate VPN connection	
- Determine supplier and IC maker connection	
Secure data models	
- Investigate data clearinghouse approach	
<b>FIRST:</b> Access to diagnostic data within IC maker's factory network	
- Integrated diagnosis data -> fab	
- Integrated operations risk data -> fab	
<b>SECOND:</b> Remote access to diagnostic data through firewall (both IC & OEM)	
- Integrated equipment component / module Data -> suppliers	
- Integrated wafer data -> suppliers	
- Integrated process/sensor data -> suppliers	
- Integrated wafer test data -> suppliers	
- Integrated fab/facilities data -> suppliers	
- Integrated remote diagnostics -> suppliers	
History log	
Capable of accepting non-tool generated data	
- Algorithms for integrating data from multiple sources	
Audio - Visual collaboration	

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<b>Task</b>	<b>Timeframe</b>
Automated self correction	
Predictive Maintenance (need to define)	
Preventative Maintenance (need to define)	
Remote equipment status monitoring & diagnosis	
Remote set-up/configure	
Remote control (need definition of master/slave; create and define the "remote" state)	

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**e-Diagnostics Documents**

<b>Deliverable</b>	<b>Timeframe</b>
ARAMS update	
ITRS incorporation	
Safety and Security Guidelines and Procedures	
Architecture vision/diagram	
e-Diagnostics shared data definition	
Description of methods / messages used for communicating data	

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**Roadmap Summary (WGs 6/29/00)**

	<b>Within the tool</b>	<b>Within the Fab</b>	<b>Within the world</b>
<b>1) Reduce MTTR (response time)</b>	a) Define Data needed, evaluate standards and update - Common elements - Common per tool type - Model unique		
	b) Bandwidth requirements / model		
	c) Define protocol for getting data off the tool - Catalog today tools capability		
	d) Resolve 1-wire guideline		
	e) Define security		
<b>2) Proactive Monitoring</b>			
<b>3) Predictive / Preventative Maintenance</b>			