

e-Diagnostics Working Group Meeting

# e-Diagnostics Protocol Team Report

James Martin, Intel

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# Protocol Definition Team

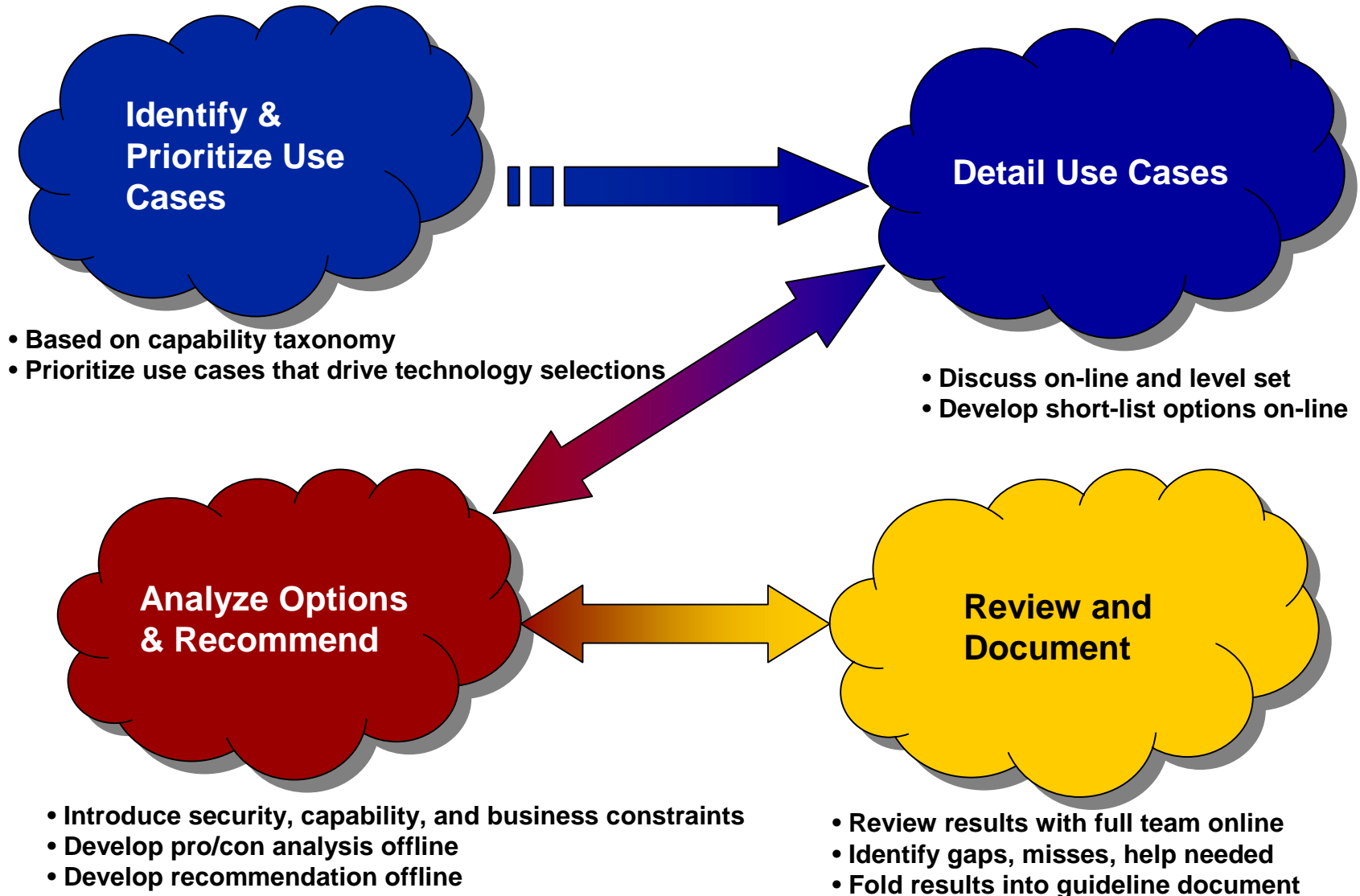
Name	Role	Representing
Shay Assaf	Member	AMAT
Ben Bergarian	Member	Nikon
Robert Brandom	Member	Schlumberger
Ray Burkofske	Member	IBM
Pete DeMastro	Member	SVGL
Roger Eastvold	Leadership	KLA-T
Neil Frank	Member	AMAT
Anjali Sridhar	Member	KLA-T
Frank Kaplan	Member	AMAT
Frank Kennedy	Member	Teradyne
Helmut Klotzsch	Member	Schlumberger
Michael Laine	Member	Axcelis
James Martin	Leadership	Intel
Melvina Mazin	Member	KLA-T
Nick Nikolic	Member	KLA-T
Scott Smith	Member	Nikon

# Objective

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- **Develop standards guidelines for:**
  - Remote equipment operation technologies
  - Data transport technologies
  - Data representation technologies

# Approach



# Accomplishments

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- **Kickoff meeting held 9/1**
  - 15 attendees from equipment suppliers, ISMT, and IC makers
- **Team Objective Defined**
  - Define guidelines for:
    - Remote equipment operation technologies
    - Data transport technologies
    - Data representation technologies
- **Capability level 0 & 1 Use Cases identified (first pass):**
  - 11 level 0 Use Cases
  - 6 level 1 Use Cases

# Accomplishments (cont.)

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- **Level 0 & 1 Use Cases prioritized**
  - Target transport first
  - Target data representation second
- **Level 0 Use Cases Detailed**
  - Grant System Access
  - View Equipment Logs
- **Level 1 Use Cases Detailed**
  - Report Equipment Data
  - Monitor Equipment Health
  - Control Equipment
  - Review Equipment Performance History

# Accomplishments (cont.)

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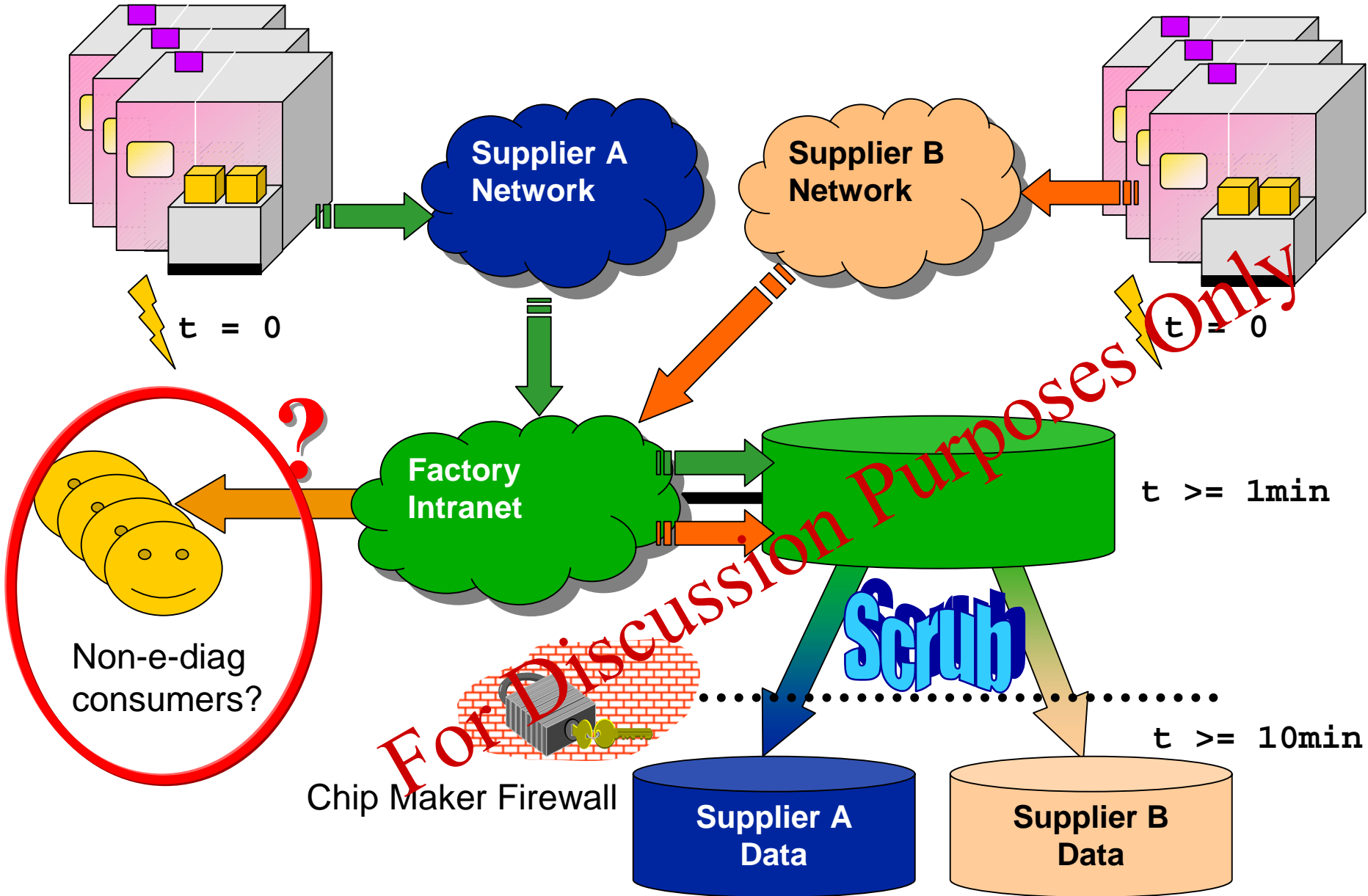
- **Subteams formed for offline analysis**
  - Log file access
  - Off-tool data movement
  - Supplier/IC Maker access to off-tool data
  - Supplier access to equipment control
- **Short list pro/con analysis in progress**
  - Log file access short list & recommendation developed, in review
  - Off-tool data movement short list developed, pro/con underway
  - Supplier/IC Maker access to off-tool data pro/con underway
  - Equipment control non-functional requirements list detailed, pro/con underway
- **Rev. 0 Guideline document drafted**
  - Initial subteam results collected

# Issues/Help Needed

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- **Security infrastructure requirements impact transport technology selections**
  - Example: off-tool data access, remote equipment operation, file transfer
  - Inbound/outbound control session requests?
  - Single sign-on?
  - Better definition of security architecture will assist protocol definition/recommendation
- **Capability clarification:**
  - Should e-Diagnostic data be produced for consumption by process control systems?

# Off-tool Data Movement Example



# Issues/Help Needed

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- **Considerations**

- Multiple consumers requires publish/subscribe protocol, otherwise point-to-point suffices
- Acceptable latency from data production to supplier consumption is ~10 – 15 minutes, may not be acceptable for process control: affects capability taxonomy
- Data needs for process control different from diagnostic needs: affects data taxonomy

# Summary

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- **Team formed and objectives defined**
- **Analysis and recommendations underway (first pass complete)**
- **Need security and capability clarifications**

# High Level eDiagnostics Network Topology

## Topology

