
Connectivity in Point Of Care

Analysis of Status Quo and Future Opportunities

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Outline

- ❑ Status Quo
- ❑ User Needs
- ❑ POC Integration
- ❑ Andover Working Group Experience
- ❑ Hewlett-Packard's Position
- ❑ Next Steps

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Status Quo

POC Sites

196,000 Potential POC Sites

1998 (US only)

Hospital

Site	Number
Emergency Dept.	5,000
Operating Room	30,000
Intensive Care	6,000
Trauma Unit	600
Outpatient Dept.	4,500
Total	46,100

Other CLIA Licensed Sites

Site	Number
MD Offices	85,000
Nursing Homes	15,000
HHC Agencies	10,000
Other	4,000
Total	150,000

Status Quo

POC Market

Total US Market ~\$1B in 1998

16 % CAGR from

- Deployment of new diagnostic tests
- POC displacement of traditional lab tests

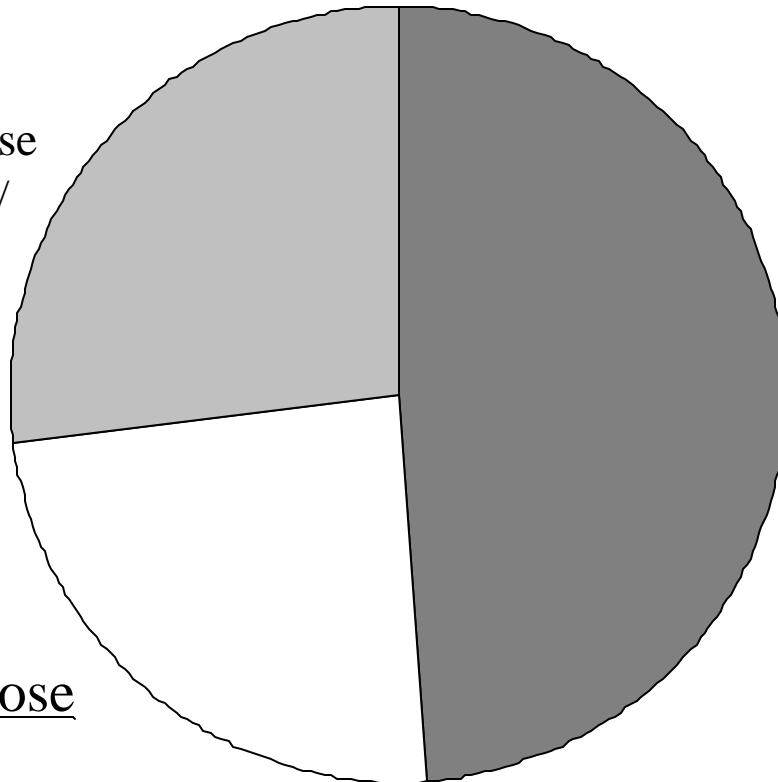
Hospital POC

- Drugs of Abuse
- Blood Gasses/
Electrolytes
- Coagulation
- HCT/HGB

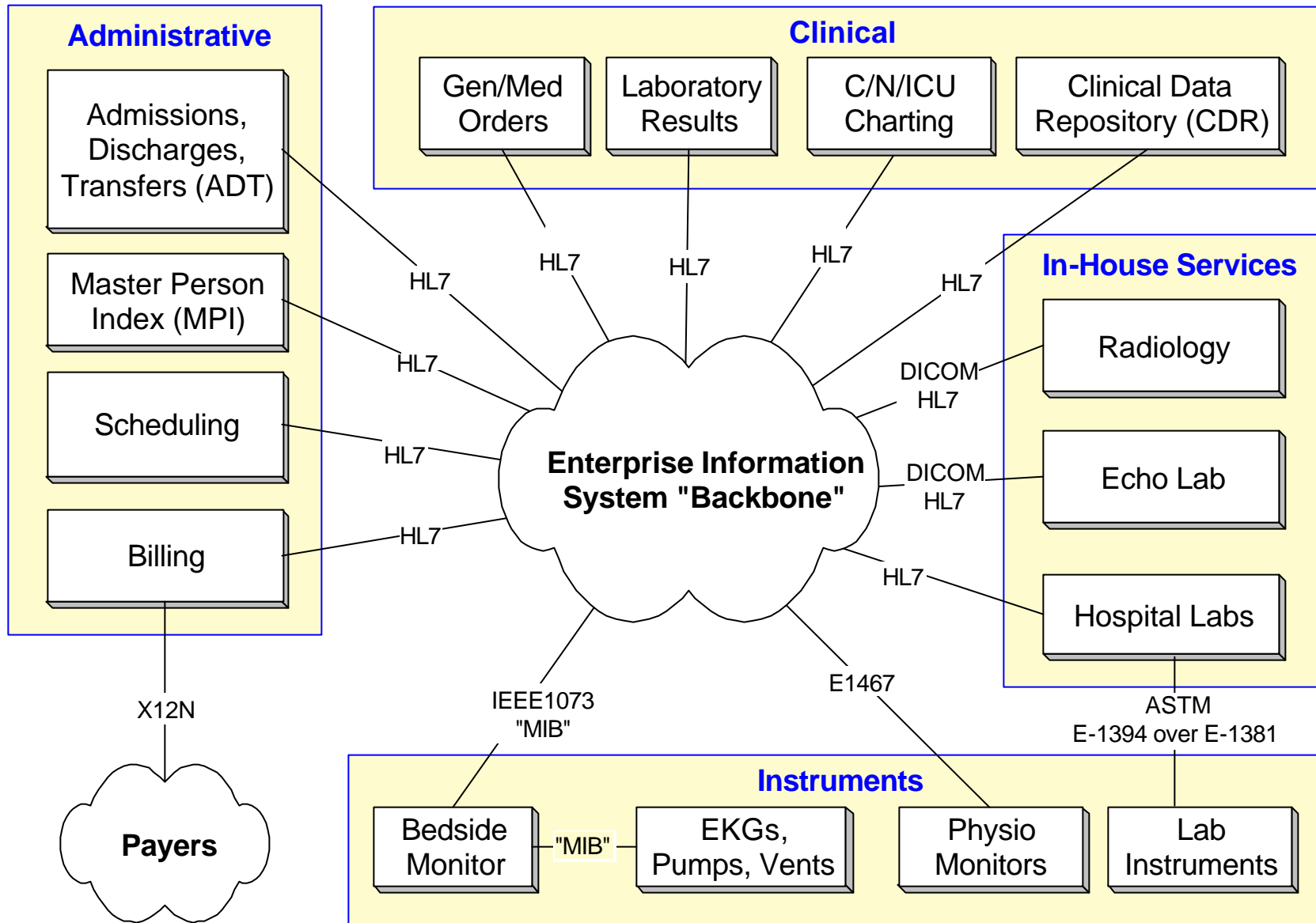
MD Office

- Hematology
- Immunoassay
- Strep. A
- Pregnancy

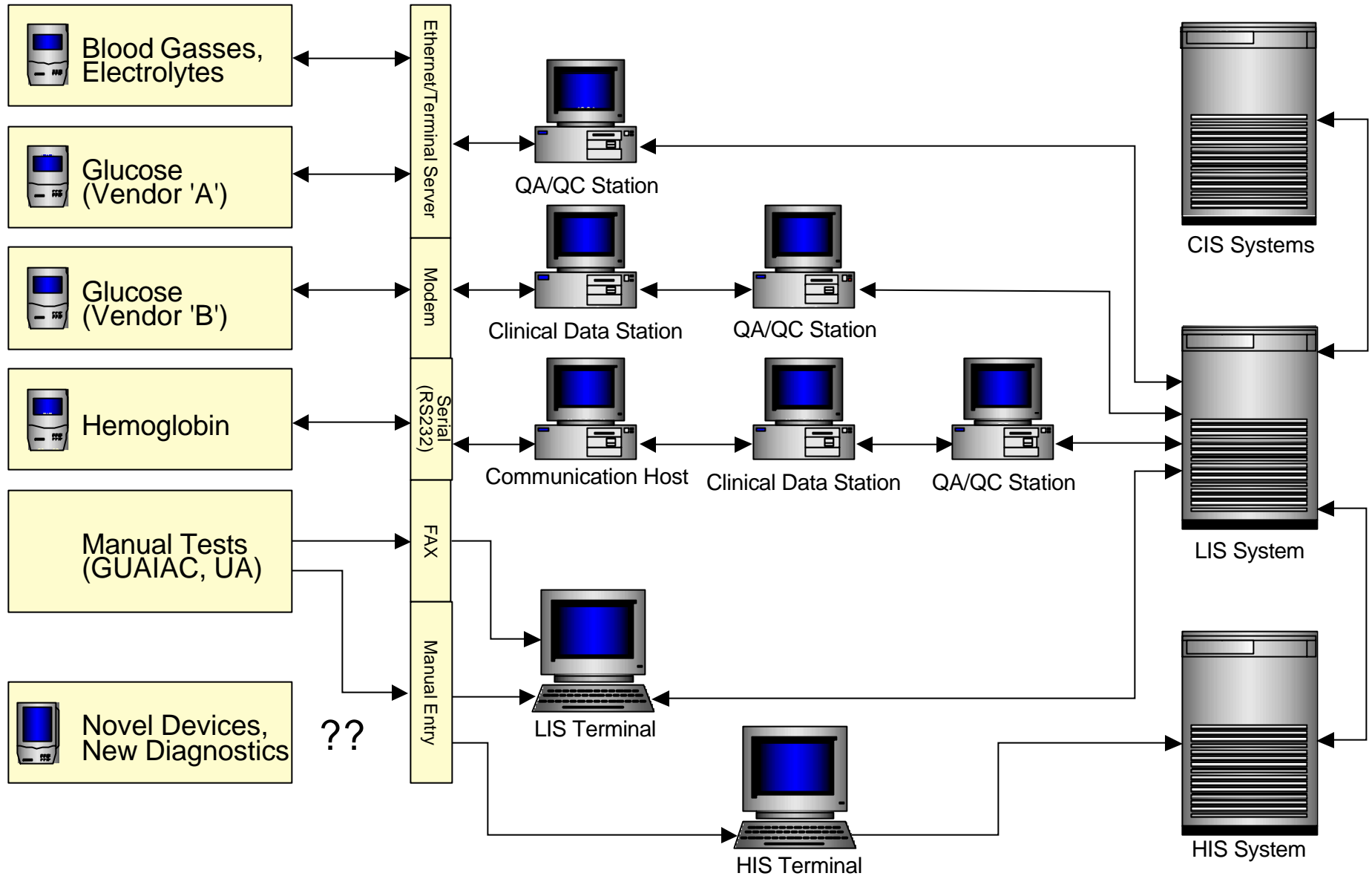
Blood Glucose



Healthcare Information Management



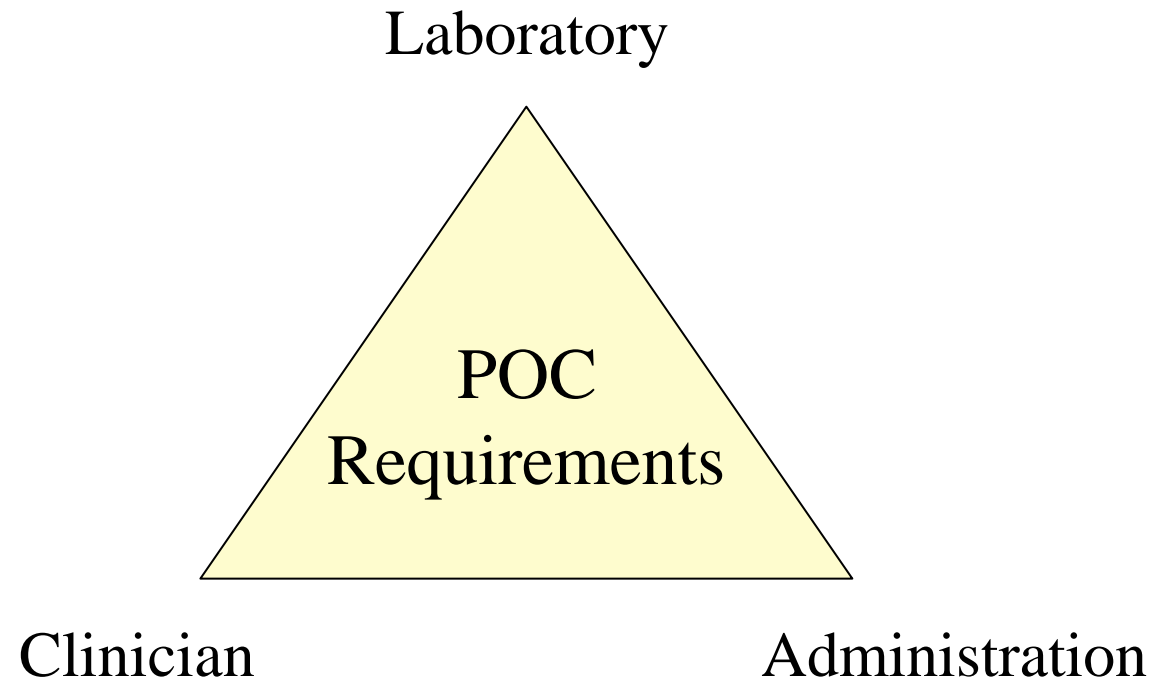
Current POC Connectivity Landscape



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User Needs



Clinician

- Timely access to test results
- Easy to use
- Portability
- Device operation in line with clinical workflow
- Seamless and timely QA/QC process
- Minimal certification requirements

Laboratory

- ❑ LIS compatibility: standardized information protocols
- ❑ Operator training and certification tracking
- ❑ Minimal impact QC processing
- ❑ Extensibility
- ❑ Timely test results for QC processing

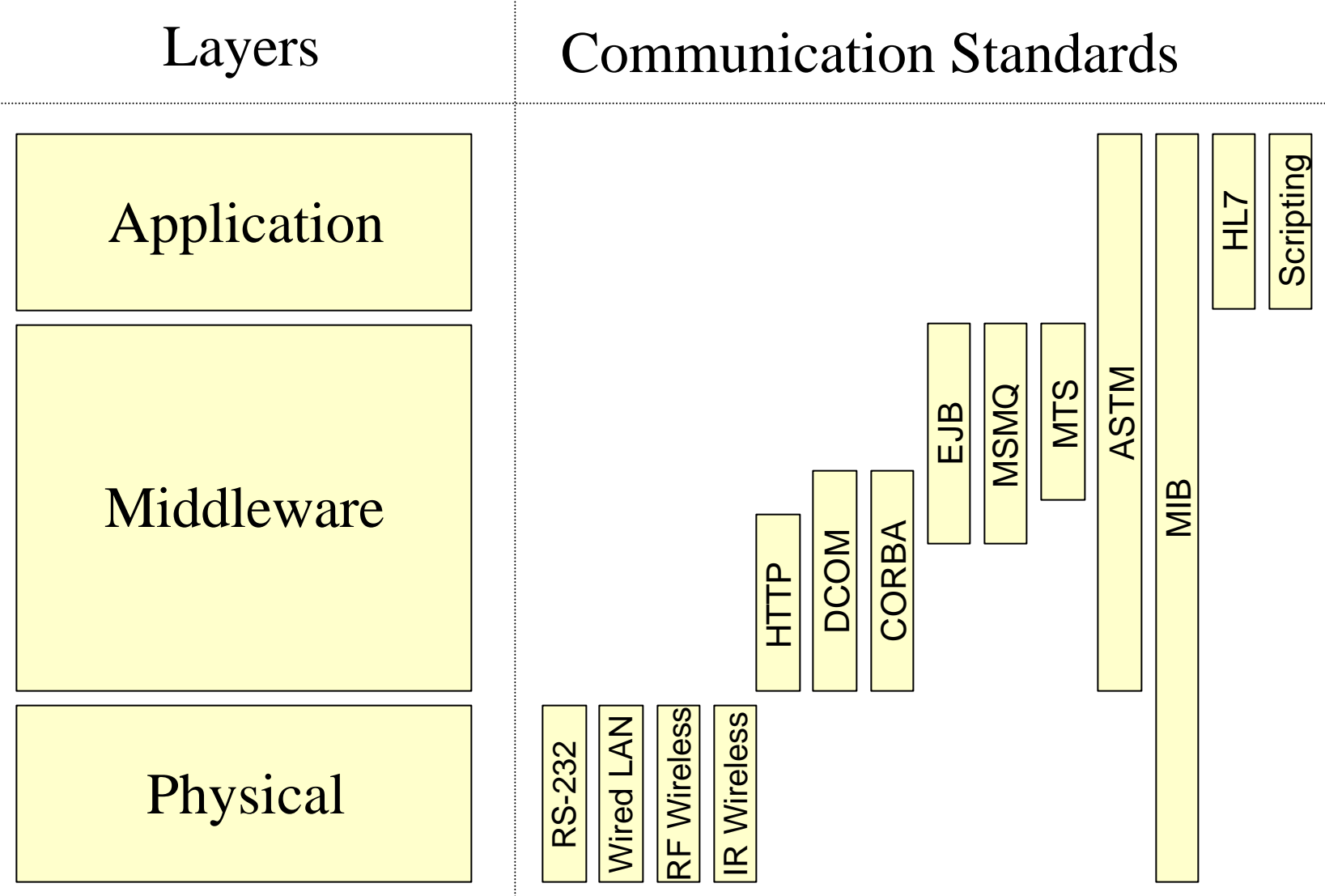
Administration

- ❑ Integration with A/D/T and billing systems
- ❑ Secure transmission and access to results
- ❑ Cost-effective infrastructure deployment
- ❑ Support for provider profiling and utilization review

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Communication Standards

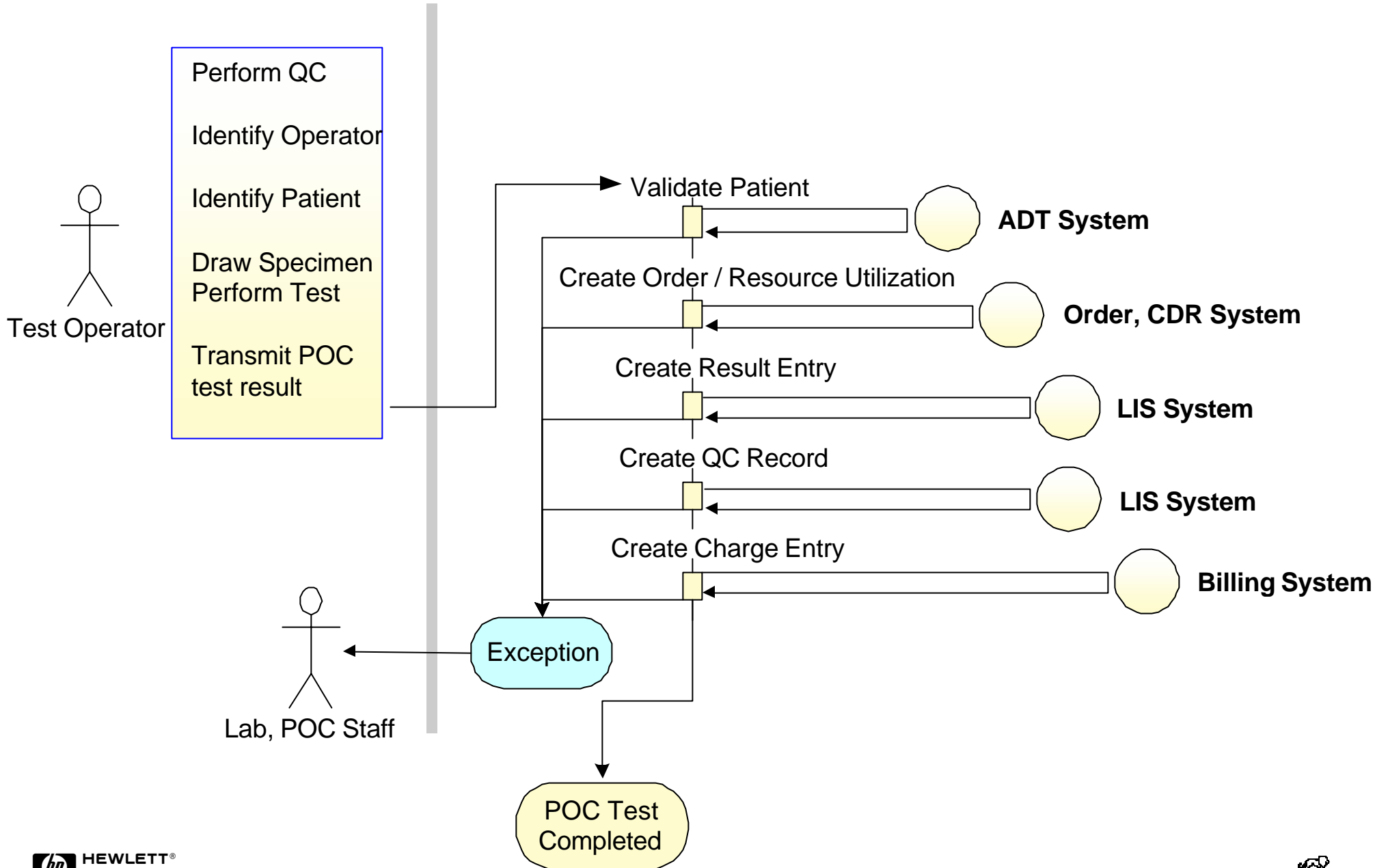


Advantages

Fully integrated POC testing offers clear advantages:

- Leverage of test results
- Management of QA/QC
- Direct support for utilization analysis
- Fosters cost-center philosophy for clinical units
- Easy system adaptation to growing POC testing
- Implementation of new care models

Fully Integrated POC Data Flow



Solution Scenarios

- ❑ De Novo

 - Develop a new POC integration standard

- ❑ “Best of Breed”

 - Select from existing standards

- ❑ Standard Profiles

 - Select several complementary standard profiles

De Novo Scenario

Develop a new POC integration standard

Pros	Cons
<ul style="list-style-type: none">• Clean start for new architecture	<ul style="list-style-type: none">• Many standards already available
<ul style="list-style-type: none">• State-of-the-art technology	<ul style="list-style-type: none">• Long process, starting from scratch
<ul style="list-style-type: none">• Standards tailored to POC	<ul style="list-style-type: none">• Legacy systems difficult to integrate

“Best Of Breed” Scenario

Select from existing standards

Pros	Cons
<ul style="list-style-type: none">• Plug-and-play partly possible	<ul style="list-style-type: none">• Not likely to meet the needs of all participants
<ul style="list-style-type: none">• Concentrate effort on implementation only	<ul style="list-style-type: none">• Rigid solution
<ul style="list-style-type: none">• Experience with standard accelerates adaptation	<ul style="list-style-type: none">• Slow adoption rate likely

Standards Profiles

Select several complementary standard profiles

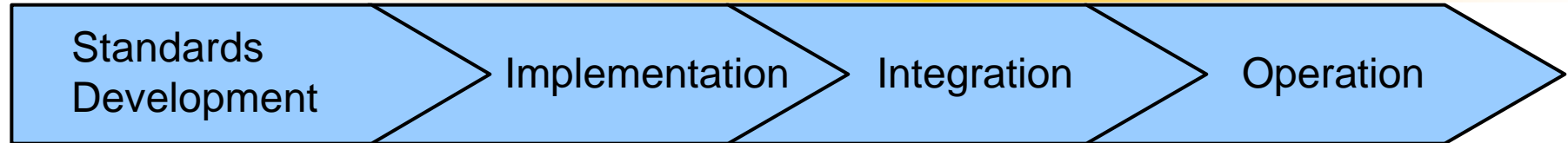
Pros	Cons
<ul style="list-style-type: none">• Complementary approach should satisfy most users	<ul style="list-style-type: none">• Requirements from all participants will extend protocol
<ul style="list-style-type: none">• Best chance for early implementation success	<ul style="list-style-type: none">• Plug-and-play not guaranteed
<ul style="list-style-type: none">• Flexibility for future technologies	<ul style="list-style-type: none">• Interfaces/gateways possibly required

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Removing Barriers to Interoperability

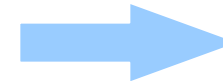
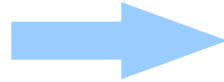
AWG Focus



- Message Profiles

- Registered Profiles

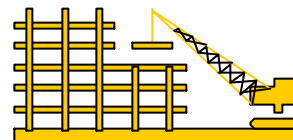
- Run Time Validation



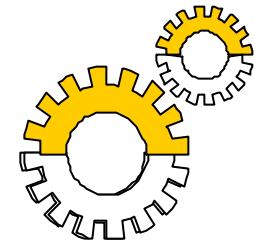
Specification



Implementation



Integration



Operation

- Messaging Middleware

- System Migration Tools
- System Configuration Tools

- Systems Management Tools

AWG Membership

Core Members

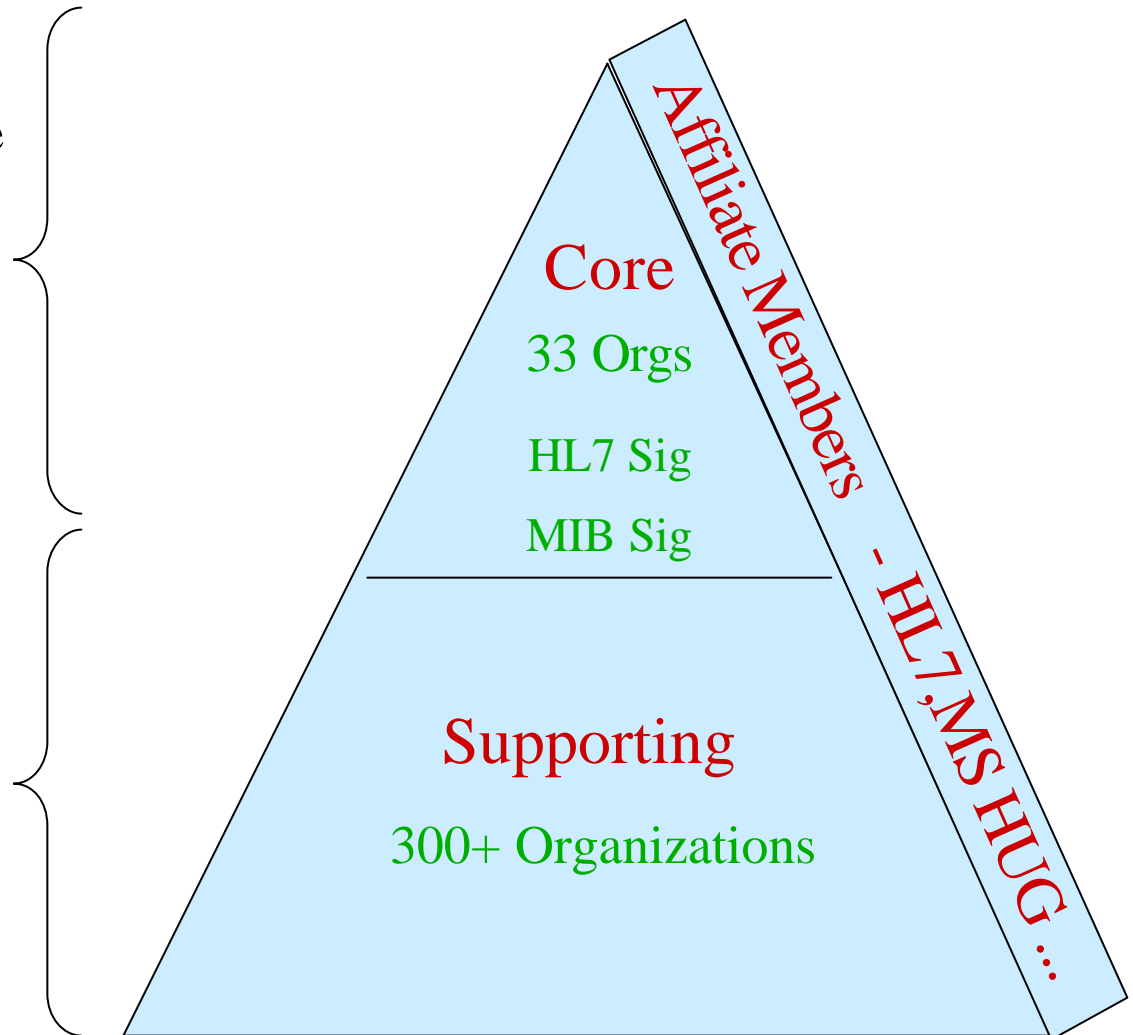
- Dedicate full time technical resource
- Participate in monthly meetings
- Contribute to specifications
- Embed software into applications
- Receive early access to software

Supporting Members

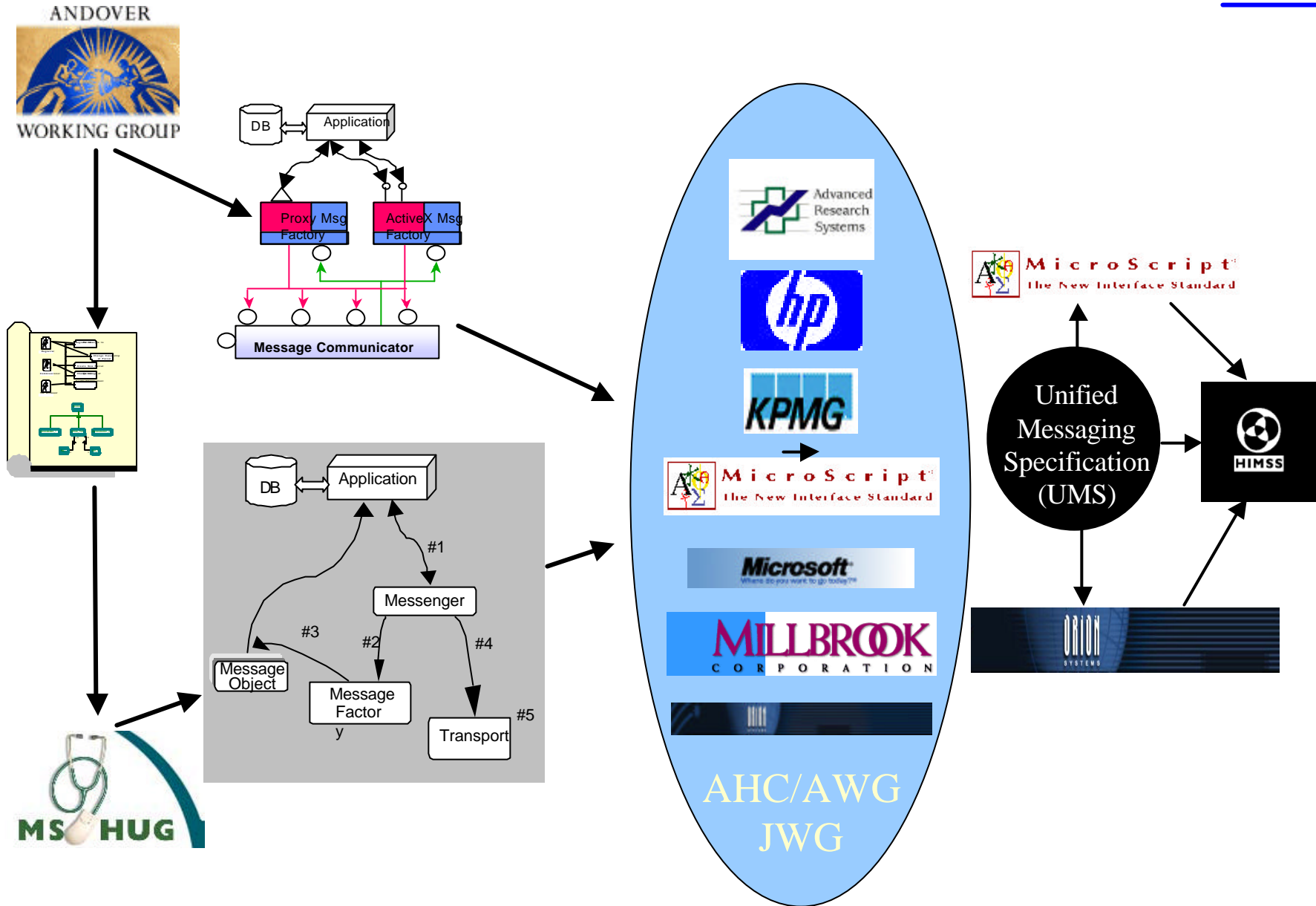
- Participate in annual meetings
- Contribute ideas for review
- Receive early specifications

Affiliate Members

- Specific working affiliations between AWG and other organizations



AHC/AWG Convergence



Presentation Outline

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Hewlett-Packard's Position

□ HP's position

- POC connectivity drives the development of POC testing
- Interest in an improved link for POC testing in the ICU
- Interest in cost-effective device interface development
- The Andover Working Group (AWG) is a successful example for addressing interoperability issues
- A cross industry working group can address POC connectivity issues

□ HP's POC Products

- Viridia Blood Analysis Module (i-STAT)
- Diametrics product line

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POC Open Industry Consortium Workshop

- ❑ Objective of workshop
Launch a POC Open Industry Consortium to overcome the connectivity barriers in POC testing
- ❑ Participants
 - Vendors of POC products
 - LIS and HIS vendors
 - End users
 - Integration service providers
- ❑ Location
Hotel Sofitel, Redwood Shores CA, October 20, 1999
- ❑ Preparation
 - POC White book
 - Exchange of ideas and objectives via POC website
- ❑ Up to date information at
poc.hpl.hp.com/poc

POC Open Industry Consortium Workshop

Agenda topics

- Inventory the standards currently supported by POC products and information systems
- Identify the integration goals for POC systems
- Identify and prioritize confronting issues
- Develop POC integration scenarios
- Develop working group schedule