Flip chart and discussion notes
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BUS Options

How to handle spectroscopy/chromatography (Ethernet)?
Talk Limitation?

1. FF
announced in May 2005 - expedite development
Momentum evaporated - high cost to get to NeSSI and possible physical barrier to get to size. Both of these were marked with TIME COST Could be people limited cost per node but infrastructure/support all in place - don't understand value/cost

2. CAN 1451.6

tech development complete
certification next - 200 KUSD - how to fund, market size, does CPAC have an account that can be used? CIA

3. Fiber-optic I.S.Can (ABB)
existing product
provide separate I.S. power to devices

4. SAAI
support Profibus, CAN, Ethernet
I2C - low costs-widely used-small, lightweight, pass through I.S. barrier greater than 20 I/0s, 3-4 m., open, non-proprietary

There is also a drawing and the words information, intrinsically safe.

My afternoon notes included the following:

NeSSI/CPAC Workshop, November 10, 2005, Seattle, WA

Additions were made to the UDA slides based on comments from Donner and Dubois.

Will the platforms eliminate the need for additional internal sensors in Division 1 and 2 spaces? Ales and Dye discussed the value of increased safety because of preferred ratings.

An interest in monitoring effluence to the flares was mentioned.

Cohn led the Validation Routine discussion and mentioned Denise Wilson, Electrical Engineering, UW, as a resources for work on the validation aspect of the application. Rohrback indicated that the validation issues could be bundled = multivariate analysis possible Veltkamp suggested development of a parametric model.

Cohn (I think) proposed looking at the vapochromic detection devices for models.

Dubois led the System Health discussion. Veltkamp suggested adding fail-safe colors red-green (or yellow) respectively. Simko suggested you could look at the first failure point individually. Krouth introduced the term 'pipe to pixel' diagnostics

Cohn led the Asset Management discussion. How long do you store equipment information. Someone answered for up to 15 years. The hope is to have a complete history of the equipment, repairs, parts replacement, running time, and so forth via continuous monitoring.

Dubois led GUI and had 'clustering devices obtaining diagnostics' to the slide. Donner discussed BUS independent with plug-ins for ease of use and to keep SAM independent from BUS choice. It still has to be intrinsically safe. (Catch this with interoperability.) Doe mentioned that you have to make financial choices and there are times when you sell at a loss to break into the marketplace (the example used was computers in 1977 selling for $25K). Farmer concerned about FF embedded in SAM. What is the cost of the FF license? Dubois stated that reliability is required since these are often used in 'mission critical' areas. Simko suggested to not wait for the final BUS to get this to market but to try to move this out in the next 3, 6, or 12 months. Ales wants a proof of concept to be certain it can be done . Krouth expressed concern about noise immunity profile for all but FF.

Collaborative Opportunities - Koch and Rohrback

Koch - Instrumentation on the SMART Platform - analytical devices to fit on platform or be interfaced. About 2/3 of CPAC's 18 projects are working toward NeSSI compatibility. Additional applications are with process optimization which has the interest of the FDA via Mel's involvement on the FDA Advisory Committee. Europe has microreactors in place with German companies leading the group in usage. A request was made for $20,000 to expand the gas chromatography work into sensor information.

Rohrback - Brian's presentation was forwarded to you today. One constant point was that the decrease in the workforce makes it vital that more data is processed via automation.

Dubois presented Interoperability - free-flowing system across all systems. Discussion ensued about plug and play components and software using some commercial applications like JAVA. The group favored imbedded SAM since this is closer to implementation. A stand-along version can be developed later. Swagelok - focus is between-the-rails. CIRCOR and Parker have developed an 'elegant' system for the substrate. Turck and others have the connectors. InfoMetrix is developing the software.

Action items from the N-BUG portion. Emerson and ABB need time to evaluate the time requirement to utilize the existing structure.

Is it necessary to have a consensus on the NeSSI BUS. It is not possible since different companies have already committed to one or another.

Harder cost information will be provided by Krouth, Dye, and Farmer.

Transferable Applets

* Transportation environment?

- one level above the operating system
- independent of operating system

* XML - define at the abstraction level

- Rick provides Jeff info

* Overlay HTML/XML portability applets

* Operating System - open, non-proprietary

SAM - Stand Alone (Use the USB serial connection model for NeSSI-bus)

* Repository for 3rd party Applets (e.g. XML)

* IS/NeSSI-bus - Galvanic Barrier (Not passive)

* Commercial Software
- National Instrument for HMI

* Commercial Hardware
  - Six-net
  - Wago
  - microPC preferable over PLC
  - packaged in Ex d condulet (e.g. Adalet)

SAM - Embedded

* Repository for 3rd party Applets (XML)

* IS/NeSSI-bus - Galvanic Barrier provided (Not passive)

* Commercial Software useful
- National Instrument for HMI

* Hardware is Analyzer platform