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SIAM Design Review Notes:
Michael Risi
11-17-2003

John Backes: The puck concept eases the burden on manufactures to make firmware changes to meet a new standard.

Alan Chave: How will the puck concept work with Ethernet?

Andy Maffei: The puck could be used to store only initialization data. [as opposed to storing instrument history, etc.]

Andy Maffei: Is power cycling the puck the only way to communicate with the puck once it has entered sensor mode? Is this the right policy?

Jeff Burch: Ability to erase sections of flash rather than the entire contents could be useful. One could potentially use such a feature to create a simple file system on the puck.

Jeff Burch: Agreeing on the contents of the puck header would be a first step in creating a puck standard.

Dale Chayes: If the puck concept appears too complicated or has too many exceptions it will not take off as a community standard.

Andy Maffei: Could the puck go into instrument mode if it does not receive the right handshake from the host? This would potentially allow proprietary/legacy software to continue to work with pucked instruments.

John Backes: Pre-pending the puck commands with the word "puck" could alleviate potential command collision with existing instruments.

Jeff Burch: A lighter version of JMS may potentially work as a distributed event response mechanism.

Brent Roman & Gene Massion: Can a relative schedule have an absolute start time? Can a tide-table be incorporated into the scheduler?

Jeff Burch: Could a generic command/response driver be created that would allow drivers to be implemented via configuration files only?

Scott McLean: Satlantic ties pump and/or shutter power to instrument power to deal with synchronizing these devices with instrument sampling.

Scott McLean: The user could be required to setup the correct schedule to insure synchronization of pumps or shutters with instruments.

Dale Chayes: Getting an evaluation kit out that demonstrates the puck concept end to end could help the adoption of the puck as a standard.

Jeff Burch: How extensively has RMI been tested over the low bandwidth links? Is RMI the right communications protocol?

Jeff Burch: The portal could cache commands and data reducing need to use the radio link outside of scheduled down loads.

SIAM Design Review Notes:
11-18-2003

Brent Roman: Could one node in the network maintain a registry of services so only that node would have to be queried when doing service discovery? This could save waking up all the nodes in the system to

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perform service discovery.

Jeff Burch: Why isn't the new low power communications card being used in all nodes instead of RS-422? It seems to have many advantages over RS-422 such as not waking the node unless a packet is addressed to that node and the elimination of PPP.

Brent Roman: You could require nodes to renew a DHCP lease on their regularly scheduled downloads. If a node disappears, you know it did not renew its lease and is having some sort of difficulty.

Tim Meese: A discovery mechanism could also be used for notification of a service failure or drop out.

Duane Edgington: There are definite security requirements for MOOS in general, if not for the mooring specifically.

Brent Roman: You could have the mooring VPN into the shore which would allow the use of un-secure protocols through the VPN tunnel.

Mike Risi: What are the bandwidth losses over the link and computational overhead on the mooring to perform the encryption required by VPN?

Jeff Burch: Time stamping a packet's arrival as well as the generation time could be useful in debugging networking problems.

Jeff Burch: What type of debuggers and profilers do you use? Having a good suite of debugging profiling tools on hand can save much time when problems do arise.

Alan Chave: SIAM needs to keep cabled observatories in mind during development. If development continues without an eye towards cabled observatories then the architectures could diverge.

Gene Massion: Nobody has thought about the data acquisition in cabled observatories. So far all the thought/effort has been focused on data transport and control.

Alan Chave: Is there a way to implement Instrument Services without using Java? This may be an obstacle to SIAM acceptance by a wider community.

Ken Johnson: Could some sort of 'ASCII table' scheme be used to implement drivers generically?

Tim Meese: A scripting language could be utilized to access Instrument Services.