



A Standard RTOS Interface?

μITRON -- A Solution Outside Japan?





History

- C Language -- by far the most pervasive language in the embedded community
 - created by enterprising engineers at ATT
 - its credentials made it a standard
- POSIX - an attempt to standardize Unix.
 - Unix was a sufficient standard (vendors accepted and dealt with the differences of implementation)
 - a committee tried to compromise between vendor implementations
 - it has gained relatively little acceptance





Need

- The RTOS market is highly fragmented with about 50 viable companies providing some level of solution
- The CPU market is out of control -- new processors slow down development efforts due to retraining etc.
- An end user should be able to select an RTOS that meets their time to market and monetary constraints while preserving legacy code.
- Applications should be built independent of the underlying CPU architecture.





Why μ ITRON

- Not a grass roots origination but a grass roots implementation
 - CPU vendors adopt as standard
 - standard works for those that adopt it
- No standard can meet all of the possibilities of RTOS capabilities - μ ITRON strikes a balance
- So broad in capability it is an easy translation from existing implementations to μ ITRON versions (RTOS vendors can easily provide an interface)
- Proven track record -- Approximately





ATI's Solution

- Team with Grape Systems, Inc., ATI's Japanese distributor and implement at kernel level.
- Implement kernel in prototyping environment first
 - standard is at the interface level, underlying implementation varies little
 - inexpensive mechanism for customers to convert
 - core implementation of all ATI products
- Target implementations insignificant compared to interface
- Permit use of extended features with Nucleus native interface





ATI's Plans

- Release prototyping version and one CPU implementation in Q4 1999 in Japan
- Release first versions in US in Q1 or Q2 2000
- Achieve CPU port verification on a customer driven basis (with over 50 CPUs currently supported, it does not make sense to validate on every CPU)
- Track standards for other products (e.g., networking) and see if it makes sense to do ITRON interface implementations for





ATI's Credentials

- One of the broadest CPU support structures in RTOS industry
- World class, unparalleled prototyping environment
- Closely held distribution channel worldwide
- Broad range of supporting products
- Engineering and support facilities in Japan, EC, and US





The Result

- Customers benefit from multiple sources
 - one less RTOS issue to contend with during purchasing decision
 - legacy is protected
 - competition between vendors does not affect legacy or ongoing developments
- All RTOS vendors stand to gain
 - increased market awareness for off-the-shelf kernels
 - compete on business model, performance, etc.
 - secures customer requirements
- μ ITRON can be accepted as a standard in the US and Europe

