PowerSmart

Standardization in Handhelds:
Benefits for Users, OEMs, Battery and IC Suppliers

By

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Agenda

- Current situation

- What Good are Standards?

- What Does the HH Market Want

- Challenges for the HH market

- A Case for Standards in Handhelds

- What's important

- The SBS IF

- Benefits to OEMs, end users, Battery and IC manufacturers

- Process

- Issues/Next steps

Current Situation

- Handhelds lack a defined standard spec
- Multiple communication protocols and physical layers are being used
- Disagreement between companies - within companies
- SBS handheld working group looking to define a standard

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What Good is the Existence of Standards?

- Standards can benefit all who use them
- Standards provide a roadmap toward development
- Standards can resolve conflict
- Standards development creates an environment of participation
- We all benefit when we work within the context of a common goal

Handhelds Defined

- Some of the broad categories include:
    - Mobile phones
    - Handheld PCs
    - Data input devices
        - Medical devices
        - Scanners
        - Test and measurement

What Does the Handheld Market Want?

- Handheld devices are emerging to perform many functions:
    - Devices which will communicate, measure, calculate and accept input (Power tools and primary only devices not included)
- Handheld devices are emerging rapidly
    - Speed to market
    - Product innovation
- OEMs are anxious to add more features and capabilities

What Does the Handheld Market Want?

- Small size, light weight, long battery life are desirable
  - Inevitable compromises
- Consistency in suppliers/multiple suppliers
- Solutions
- The answer to the question regarding a standard communication spec.
  - Define the physical layer and command set for host to battery communication

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Challenges for the handheld market

- Devices and functionality are converging
  - Multimedia, internet, communication, etc.
- In Europe GSM is attempting to manage this via the development of the third generation wireless network
- Completion of a HH communication spec
  - Begin the process
  - Handhelds are not computers

A Case for Standards For Handhelds

- The creation of a standard communication spec for handhelds
  - Would provide a systematic, controlled and targeted approach for designers and developers to follow
  - OEMs could focus on critical design issues
  - Improving the consistency of components
  - The ability to provide longer battery life
  - The mass market offers huge opportunities for well thought out designs
    - Priced right
    - Easy to use

Important Considerations

- From a business perspective, the buy-in process of OEM's as well as the component manufacturers is critical for spec acceptance

- We as a group need to stress to OEMs that the standards will be useful short term even though the specs are not complete or final.

- The evolution of the specs will allow OEMs to work toward product implementation along with the component manufacturers.

- From a process standpoint, we should ensure that valid opinion will find an open forum.

- All worthwhile technical input should be allowed consideration

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What Will Help Make this Happen?

- A process
  - Timetables and targets
- Strong leadership
  - Moves the process forward
  - Set the pace
- Several examples have shown this to be effective
  - GSM - Ericsson
  - SBS - Intel and Duracell
  - USB - Intel and Microsoft
  - ACPI - Microsoft, Intel, Toshiba
- Singular effort not required or wanted
  - Full commitment from all participants

The History of SBS IF

- The SBS IF has a successful track record in driving standards development
- SBS IF has created an environment of cooperation and support, with suppliers and competitors working together
- SBS IF represents a broad spectrum of battery, IC and component mfgs as well as OEMs from various product categories
- SBS IF's history is one of learning and evolution
  - Processes improved with greater input and participation
  - A more open dialog developed
- Accomplishment
  - SBS acceptance

The HH Working Group

- The Handheld Working Group attempts to expand the scope of the SBS-IF

- SBS is concerned with batteries, battery operated devices and how they communicate

- The focus of this working group will be on creating a common template for communication in handhelds

Benefits to IC Manufacturers

- A capital intensive business where costs need to be managed
- A poor design carries a high price
- Pushes technology toward better implementations
  - Faster, cheaper, more accurate
- Standards define minimum requirements
- Permits additional features at manufacturers' discretion

Benefits to Battery Manufacturers.

- Battery Industry relies heavily on standards now
  - ANSI, IEC
- Economies of scale of large volume production
  - Direct labor, material and equipment
  - Increased expertise
- Opportunities in the mass market
  - The opportunity to expand past custom battery designs and applications
- High volume can mean low cost producer status
  - Lowest cost producer has an advantage

Benefits to OEMs

- Enables OEMs and designers to provide more useful features
  - Concentrate on real value added
- Hasten device development
- Simplified sourcing
- Matching components are easily identified
- Reduces design and development time
- Reduces overall costs
- Maximizes customer satisfaction

Benefits to End Users

- Better, lower cost products
  - Feature rich devices will appeal to the market
  - User-friendliness leads to user acceptance
  - Functionality can be invisible to users
  - Users know it "just works"

What is the process?

- Suggestions anyone?
- A few systems have been discussed; one wire, Single Wire, two wire etc.
- A strawman at Developers Conference (v0.6)
    - Open discussion
    - Consensus
    - Specific feedback to be sought
    - Indicative voting, weighted voting
- Helps define the level of support
- Surfaces issues and provides quick resolution
- Approved solution

Issues:

- Agreement on proposal - lets agree to agree
- Multiple implementations on the table - how do we choose?
  - Disagreement among companies, within companies
  - A sincere effort should be made
- Solve for technical issues
- Metrics
- Inertia
  - Guard against this

Next Steps

- Moving Forward
  - Time is of the essence
  - Pressure from device development demands quick resolution
- Set a schedule
  - Sets a process in motion
  - Consider the forthcoming proposal
  - We should walk away with some defined actions
- Target established - Oct 1998