

Cost Savings via Reuse EDP 2002

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Agenda

- Reuse Components
- Factors driving Reuse
- Factors affecting Cost of Reuse
- Industry data on Reuse cost
- Solution available for Reuse infrastructures
- Questions



Reuse Components

- Design Methodology
- IP infrastructure
- Reuse Guidelines & abstractions
- Design Data management System



Factors driving Reuse

- Market drivers
 - Inability to meet time to market due to high complexity
 - Electronic Market Shifting Toward the Consumer
 - Manufacturing Capability Improving Dramatically
 - Need to decrease Design cycle time and increase productivity. Design Cycle Time of an ASSP Project is Shrinking



Factors driving Reuse

- Other drivers
 - Unable to leverage/retain engineering talent for new projects in this era of global engineering skill shortage.
 - Unable to design and reuse IP blocks due to lack of infrastructure support - standards guidelines, methodology, IP Library Infrastructure.
 - Multiple divisions developing different types of non standard IP blocks in standalone databases which cannot be shared –large silos of non reusable legacy IP.
 - Unable to change to a reuse based design environment by internal programs



Metrics to determine cost of Reuse

- Original Development time
- Amount of Design modification required
- Re-verification time



Factors affecting Cost of Reusable IP

- IP Authoring and modification cost
- Maintenance, reuse infrastructure & support cost
- Licensing and distribution cost



Industry data on Reuse

- Cost of developing reusable IP is typically 1 ½ to 3 times the cost of developing for single use designs.
- In dollar terms it is 30-50% more expensive
- Most companies recreate the IP if there is more than 10-15% change required in legacy cores to reuse



Solutions for Reuse infrastructure

- Reuse methodology & guidelines
- Comprehensive Design Catalogs
- Transport and connectivity to Design teams, IP providers and consumers
- IP Vault and distribution servers
- IP certification and qualification
- IP Knowledge base and support
- IP reuse metrics collection and analysis systems



Customer IP Reuse Model

