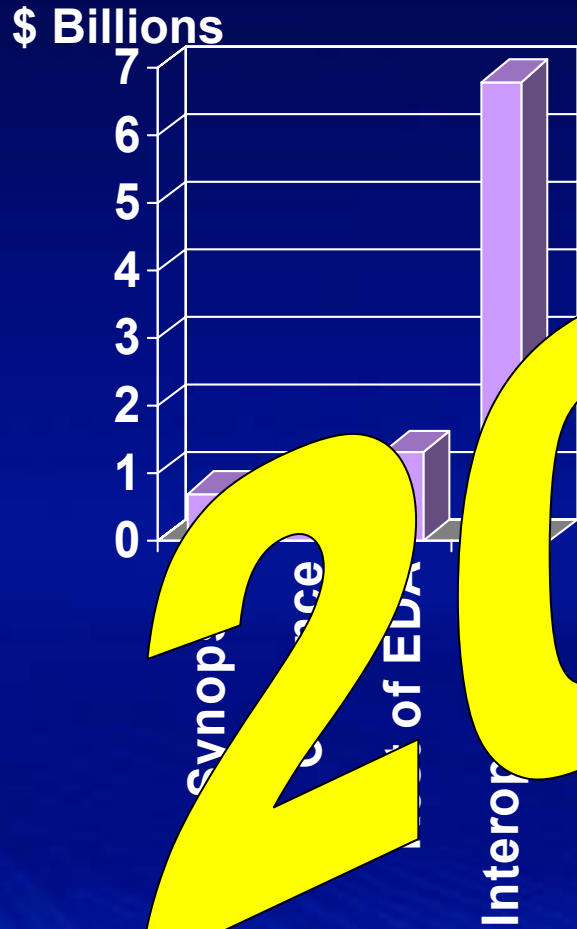


Greg Spirakis

**Vice President, Technology & Manufacturing Group
Director, Design Technology**

September 22, 2004

Interoperability is Expensive!!



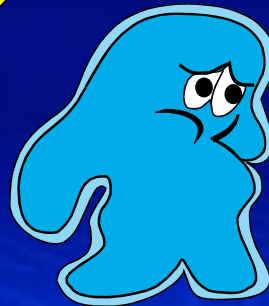
2000

“We spend \$3-5 on interoperability for every \$1 spent on EDA tools”

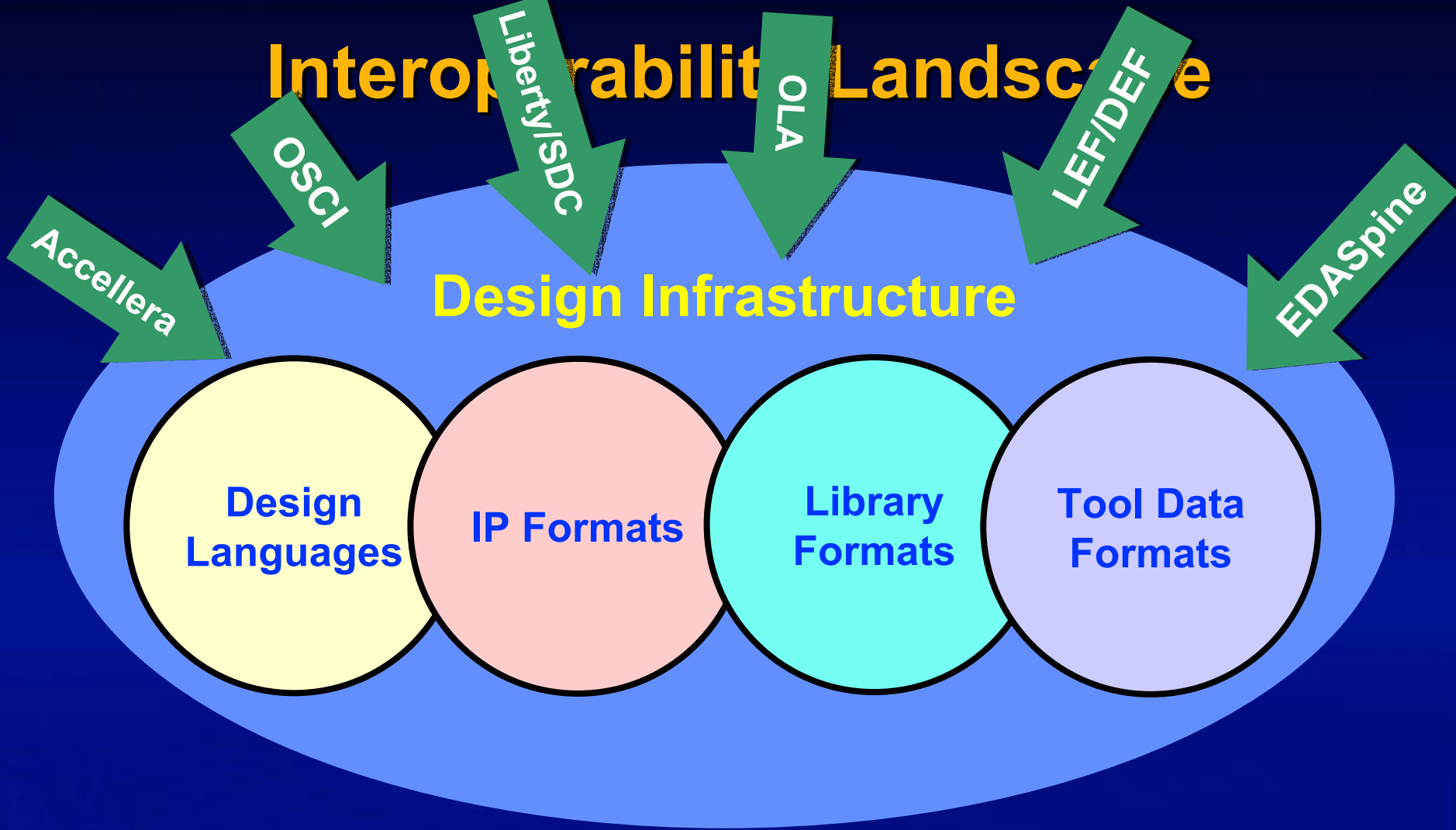
Gadlinger, Intel

“The industry is spending \$7-9 billion a year on interoperability work together”

- Ron Collett, Collett International



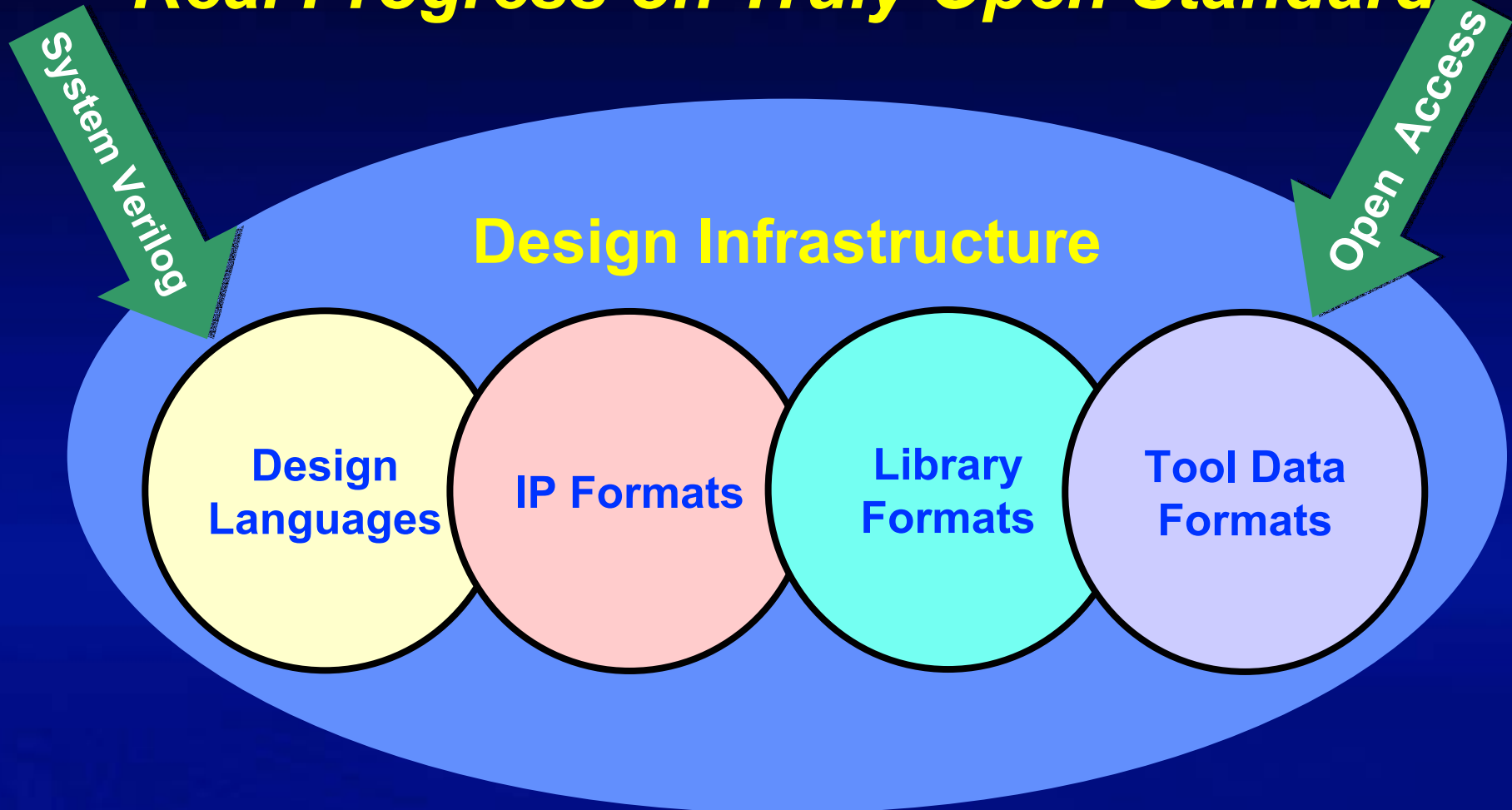
Interoperability Landscape



Lots of Activity !!!

DAC 2000 Interoperability Workshop

Real Progress on Truly Open Standards



- SystemVerilog Is THE Verilog Of The Future
 - IEEE Standard Efforts Unified
- OpenAccess Has Reached Critical Mass
 - 28 Members, Version 2 Released, Community Contributions



What Did We Learn

- **Standards Efforts Can Work In EDA IFF**
 - Solves A Real Problem
 - Customer Driven
 - Truly Open
- **InterOp Costs Dropped From 3:1 To 1:3***
 - Probably Over Estimated Initially
 - API Driven Tools Truly Easier To Integrate
 - One Time Costs Already Absorbed
- **Arriving Late To The Party Hurts**
 - Companies Joining SystemVerilog Bandwagon Late Are At Competitive Disadvantage
- **Technology Need (Vs Cost) Will Drive Future Standards**
 - Extend OpenAccess To Masking/Manufacturing
 - Customer Driven Open Library Standard
 - <http://www.si2.org/Projects/lcc.html>