Dongbu HiTek

Technology Enabling for Specialty Foundry

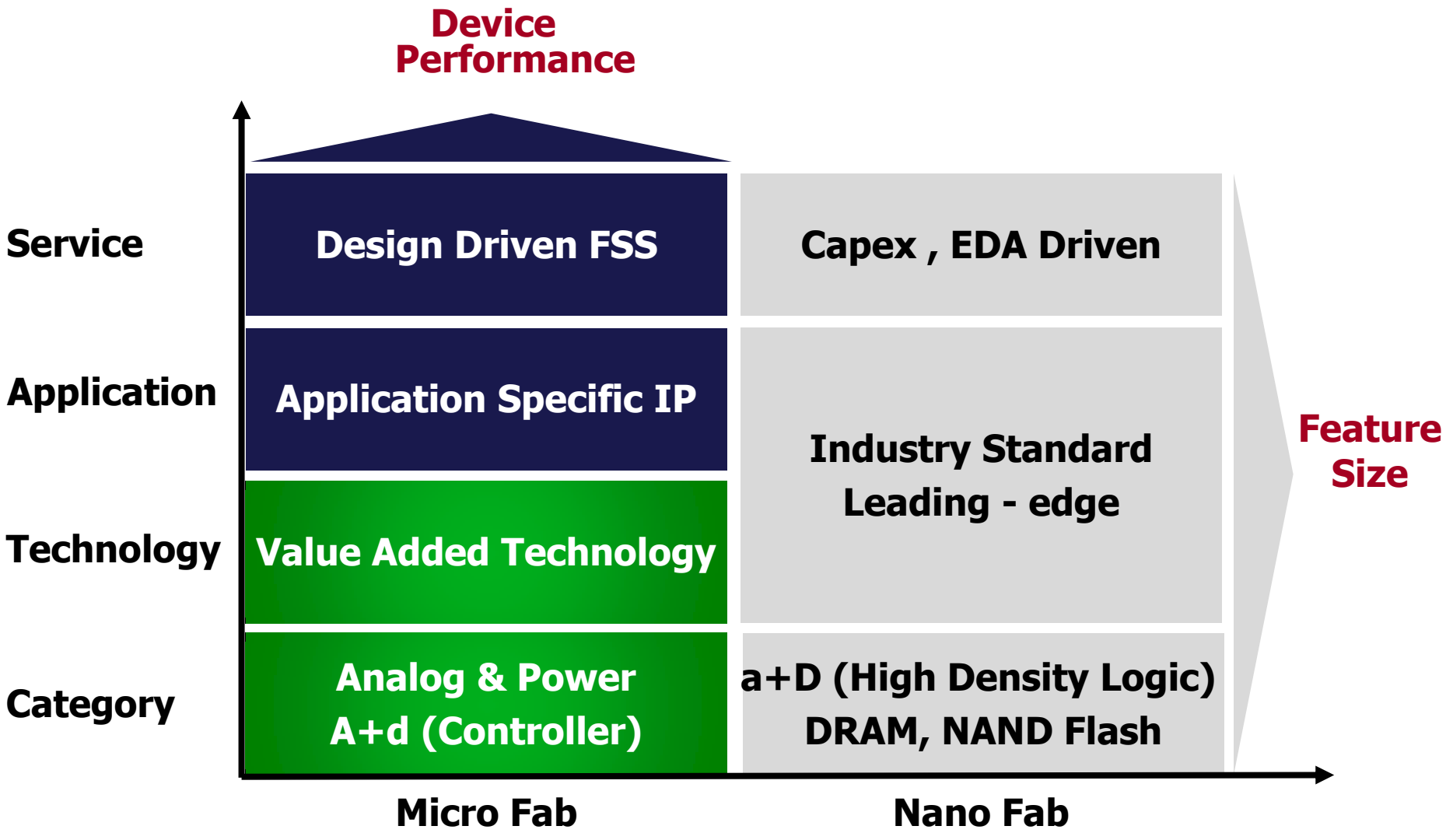
October 10, 2012

Taek-Soo Kim
VP of Technology Enabling
DongBu HiTek, Co., Ltd.

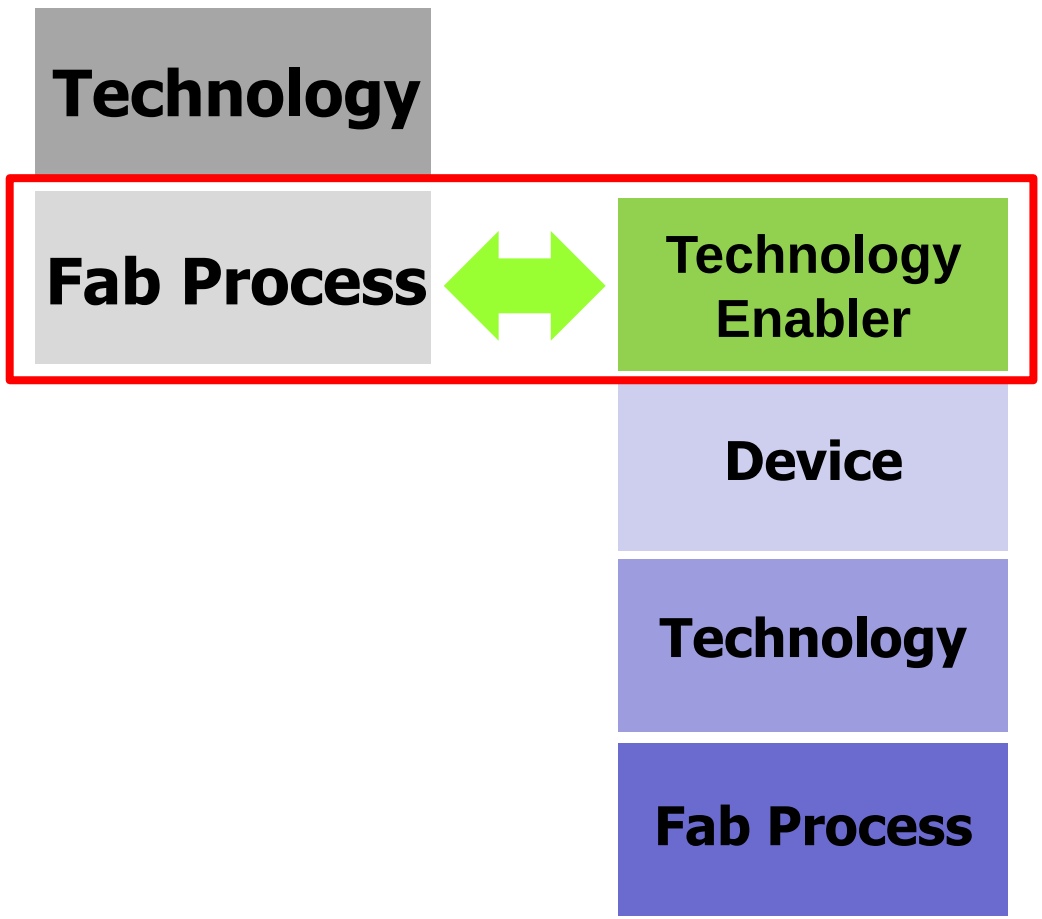
Outline

- Introduction
  - ✓ Specialty Foundry Strategy
  - ✓ Technology Enabling
- Application Specific IP (AS IP)
- Process Design Kit (PDK)
- Conclusion

Specialty Foundry Strategy



Technology Enabling



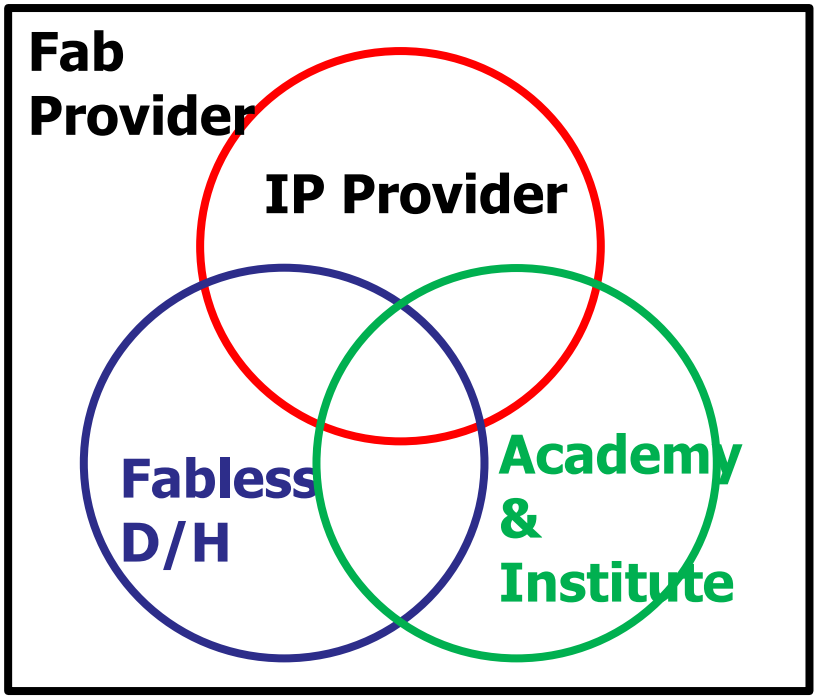
Differentiation

- **Application Specific IP**
  - ✓ Highly Process Dependent IP
  - ✓ Standard I/F Protocol
- **Robust Process Design Kit**
  - ✓ Accurate models
  - ✓ Complete Verification
  - ✓ Advanced Utility

Outline

- Introduction
  - ✓ Specialty Foundry Strategy
  - ✓ Technology Enabling
- **Application Specific IP (AS IP)**
- Process Design Kit (PDK)
- Conclusion

AS IP : IP Clouding



AS IP Pool

IP Clouding

- Alliance with Customers
- Fab Driven
- Clouding & Raining

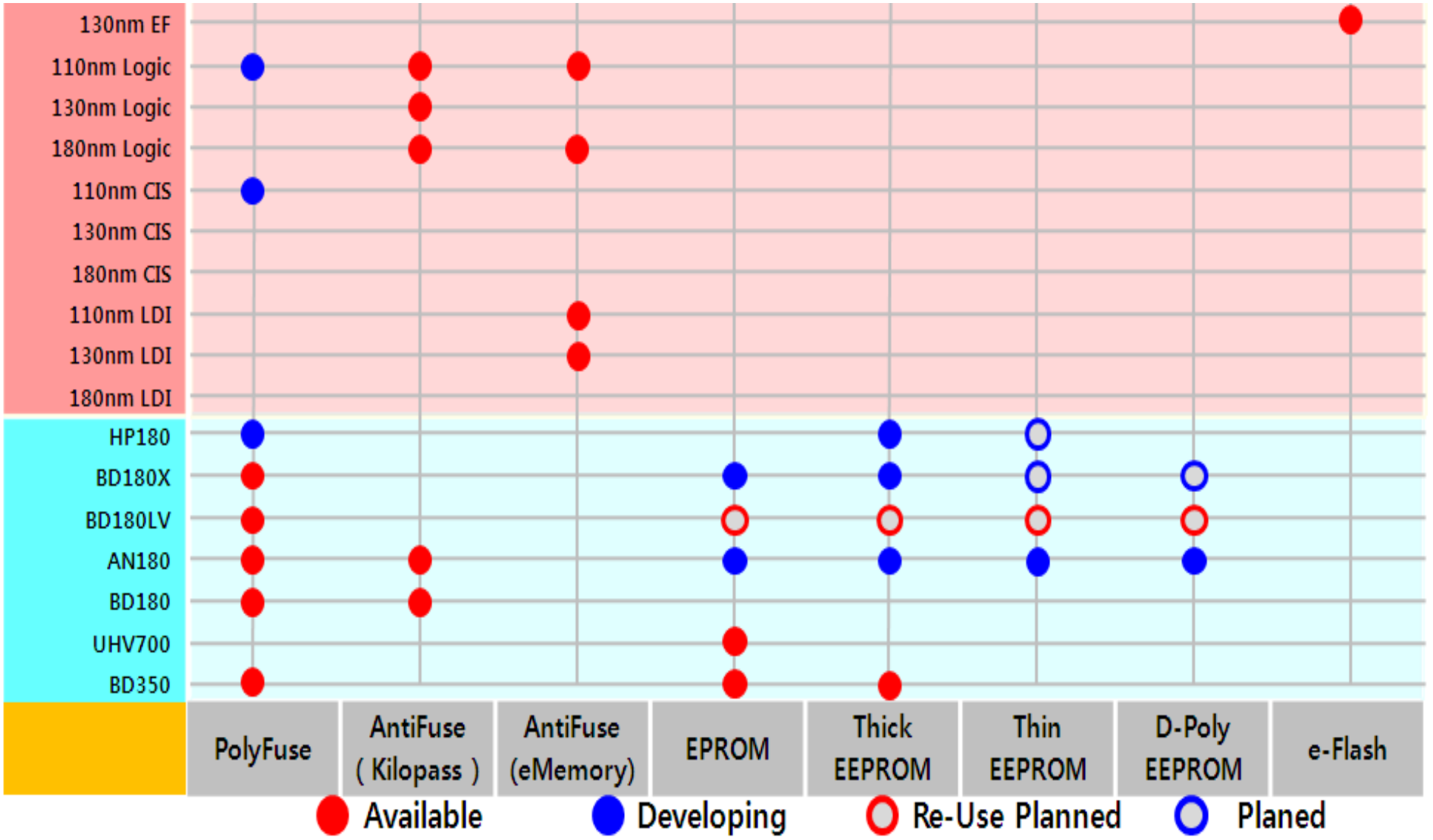
IP Clouding Program

- Alliance with Customers : Business with verified IP
- Fab Driven : Foundry dependent IP, shorten D/W
- Clouding & Raining : Verified IP Promotion

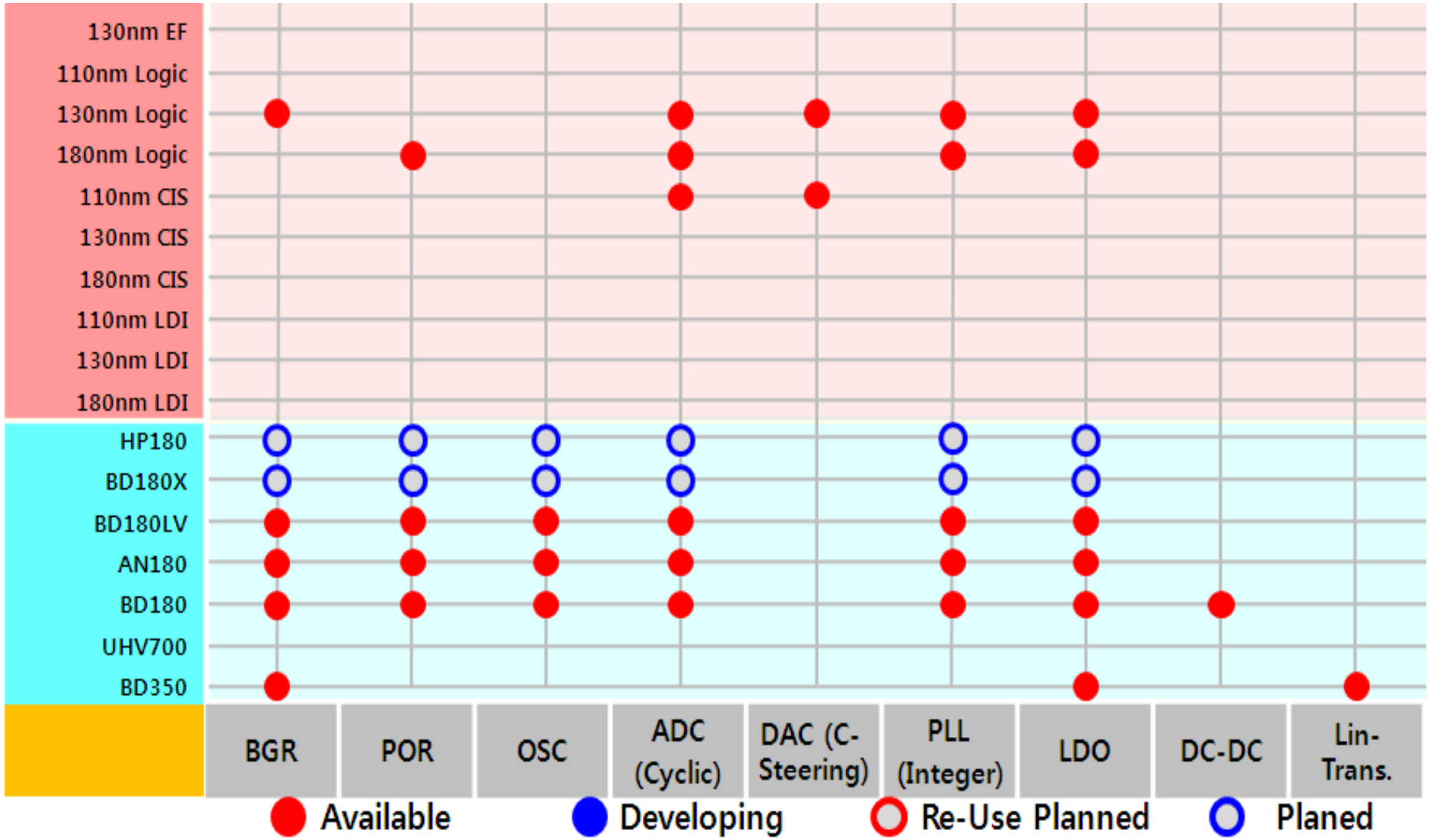
AS IP : AS IP in DBH

- ✓ **DBH interested in followings**
  - **Memory Related**
    : eFlash Memory, EEPROM, 32-bit MCU
  - **Interface Related**
    : MIPI (DSI, CSI), USB3.0
  - **Basic IP**
    : LDO, DAC, C-ADC, PLL, and so on

AS IP : NVM (OPT/MTP)



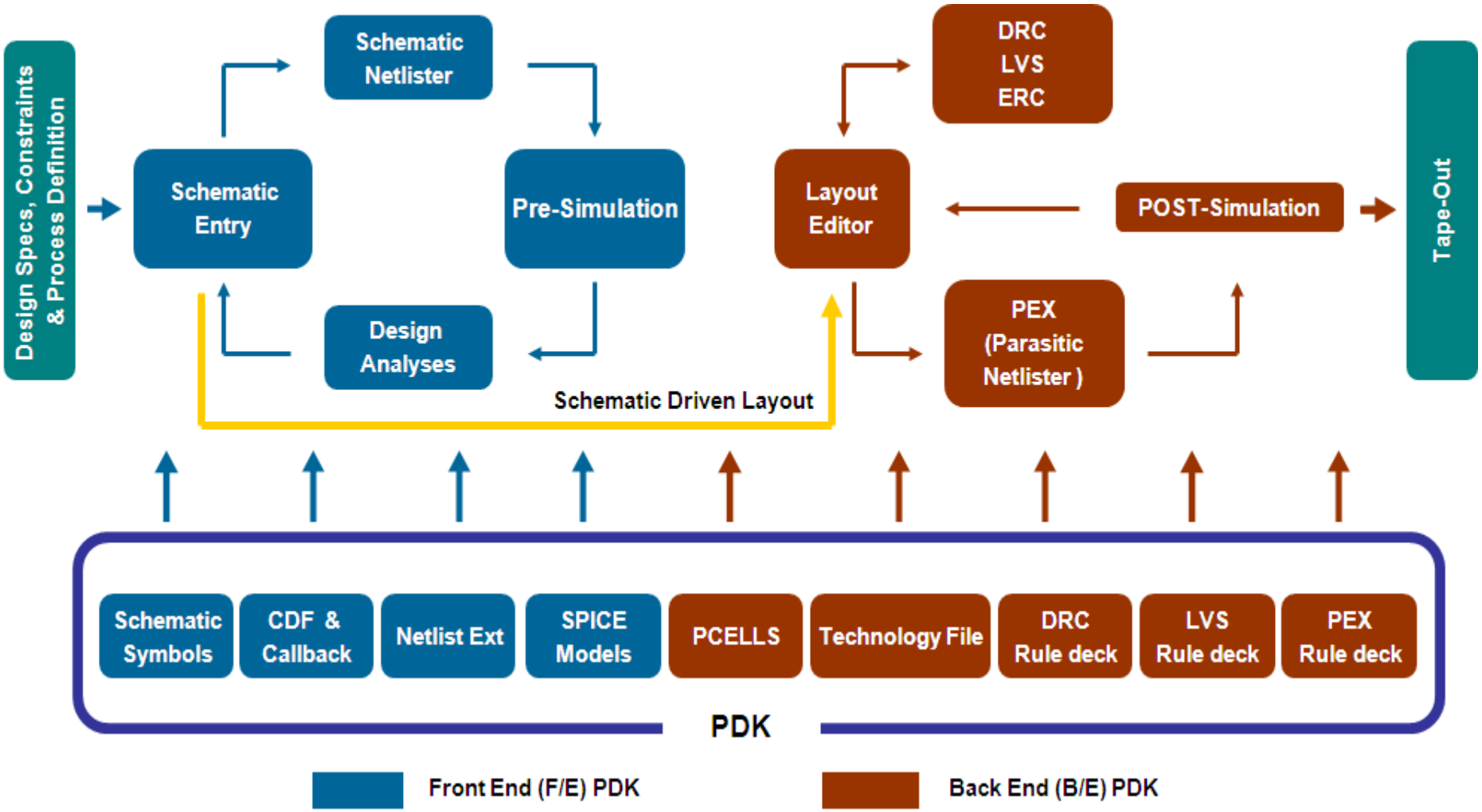
AS IP : Roadmap – Basic IP



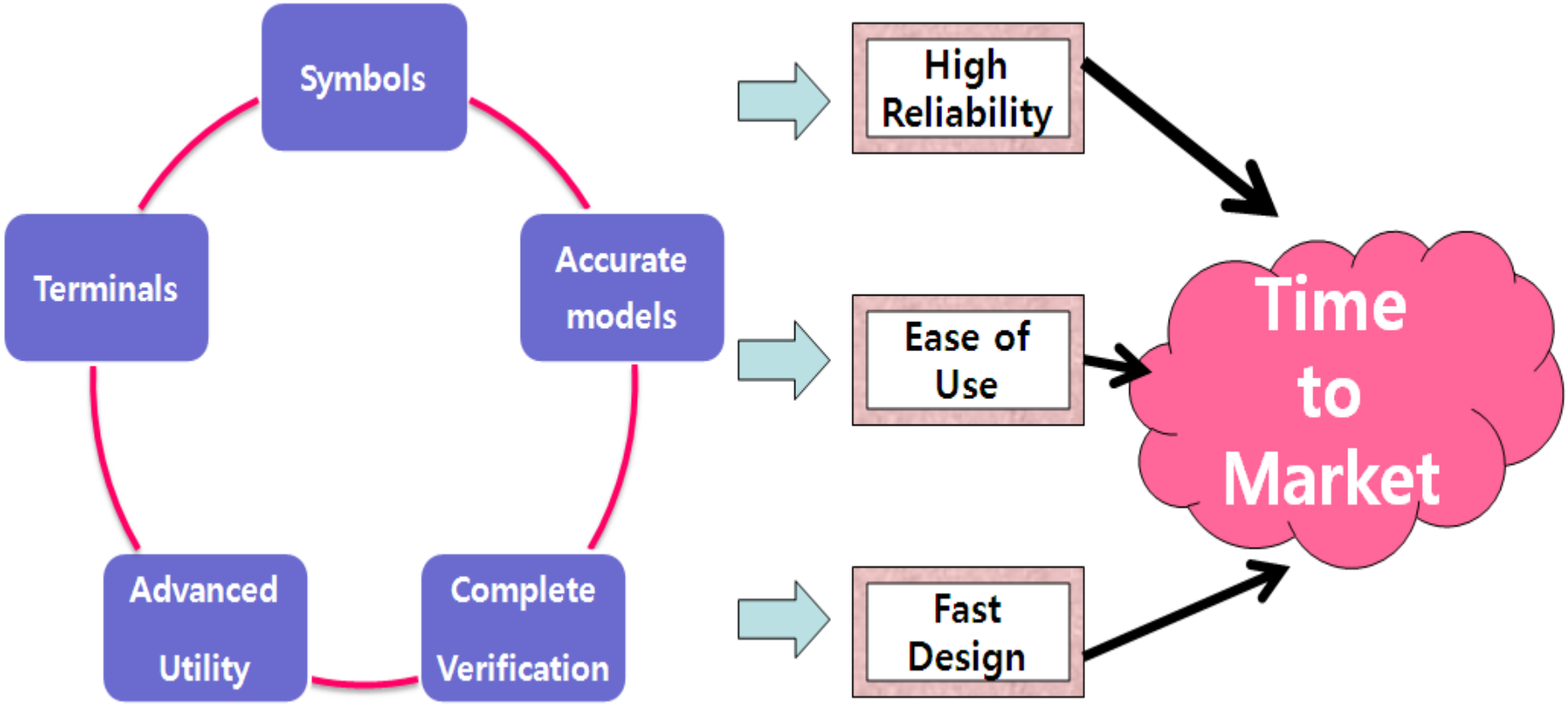
Outline

- Introduction
  - ✓ Specialty Foundry Strategy
  - ✓ Technology Enabling
- Application Specific IP (AS IP)
- **Process Design Kit (PDK)**
- Conclusion

PDK : What is the PDK?

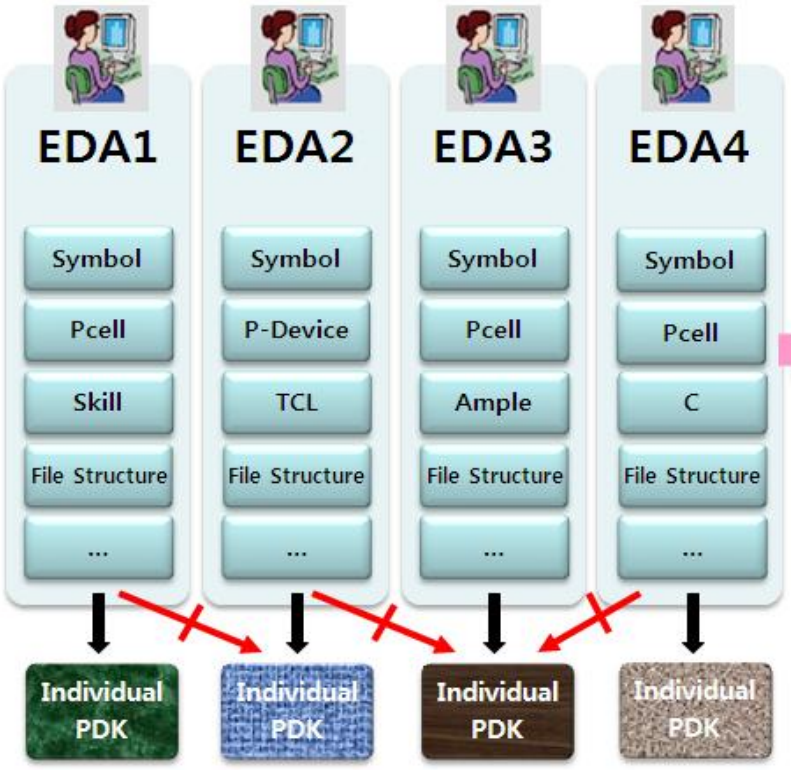


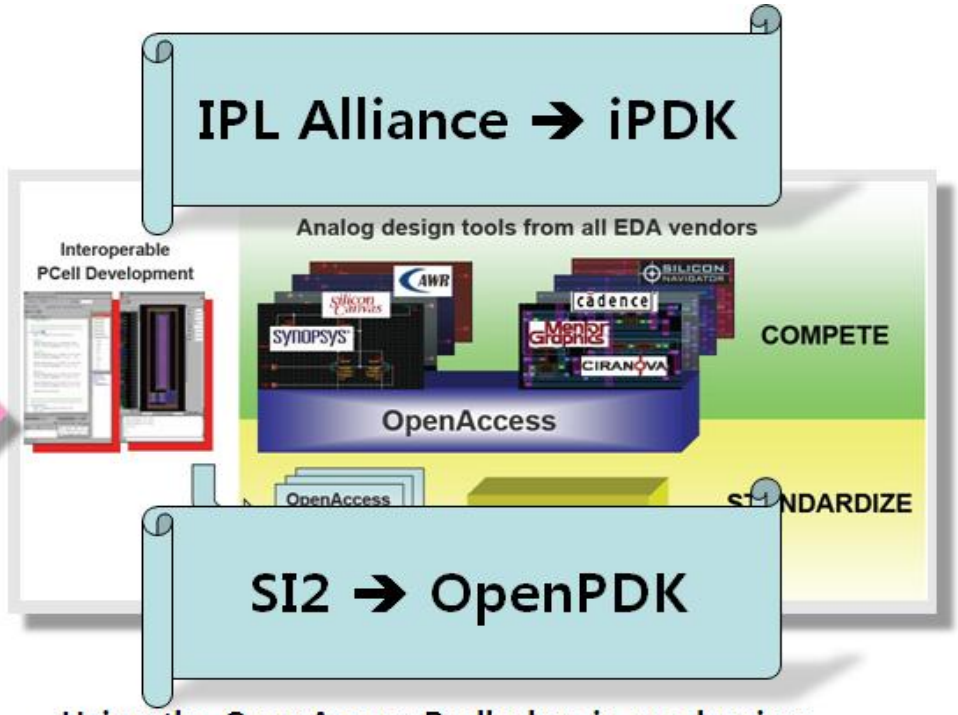
PDK : What Differentiates PDK?



PDK : PDK Activities

- Customers need PDK for their EDA tools
- Foundry has to support Multi-platform PDK(Cost, Consistency)
- Need Standard form of PDK



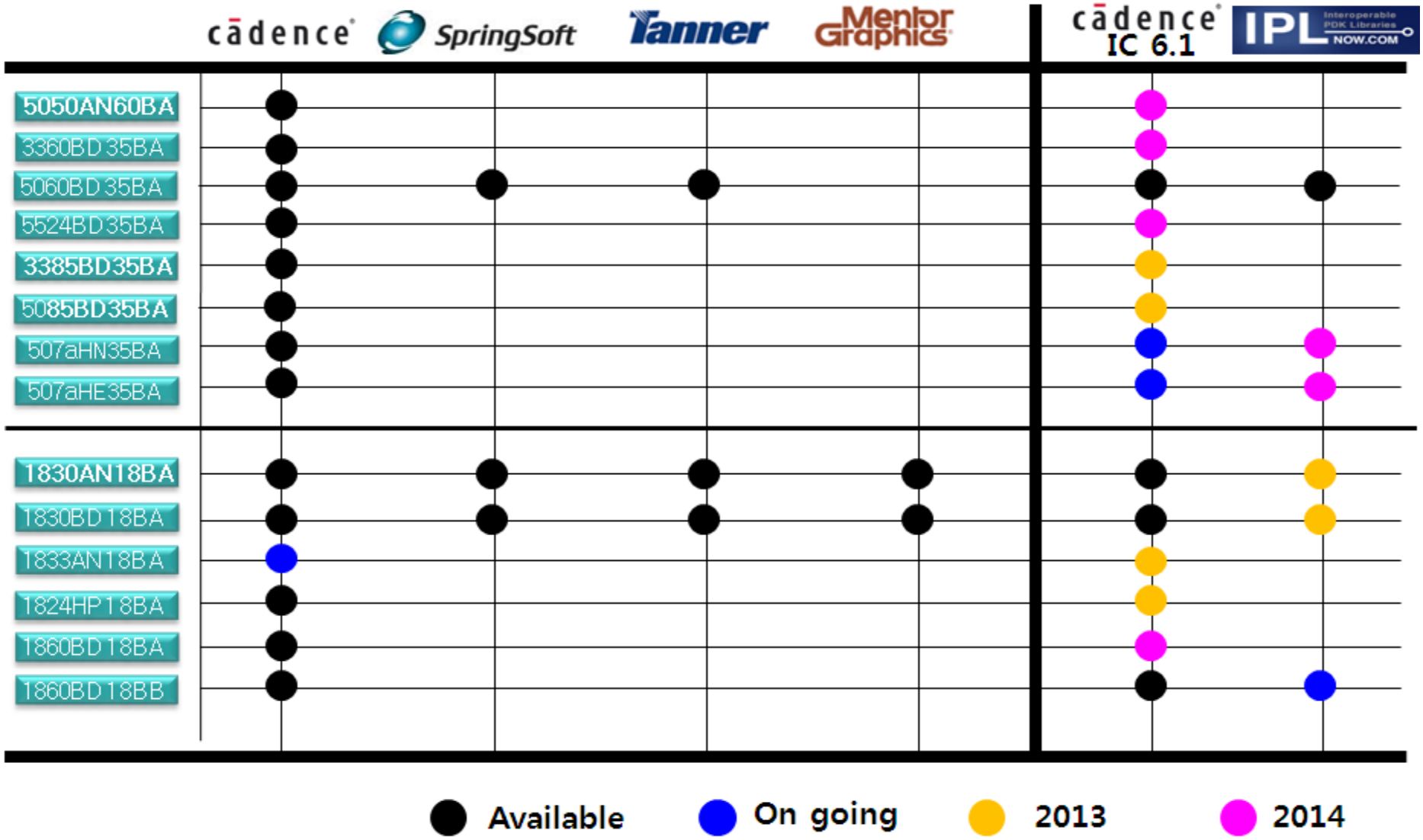


- Using the OpenAccess Pcell plug-in mechanism
- Using non-proprietary programming language
- Using freely available layout generation framework

What is the Benefit of PDK Standardization?

- ✓ **For End-user**
  - **Increased design chain choice**
  - **Access to best-in-class tools**
- ✓ **For Foundries**
  - **Faster service for customers**
  - **Lower costs to support EDA tools**
- ✓ **For EDA companies**
  - **No need for retooling to new formats**
  - **Can focus on value-added differentiation**

PDK : Roadmap - BCD



Contents of this Talk

- Introduction
  - ✓ Specialty Foundry Strategy
  - ✓ Technology Enabling
- Application Specific IP (AS IP)
- Process Design Kit (PDK)
- **Conclusion**

Conclusion

- ✓ **AS IP and PDK are differentiation of Specialty Foundry**
- ✓ **AS IP interest in DBH**
  : Memory IP, Interface IP, and Basic IP
  : IP Clouding
- ✓ **Quality of PDK & Unified PDK structure**
  : High Reliability, Easy to Use, Fast Design
  : Multiplatform Support

Dongbu HiTek

Thank You