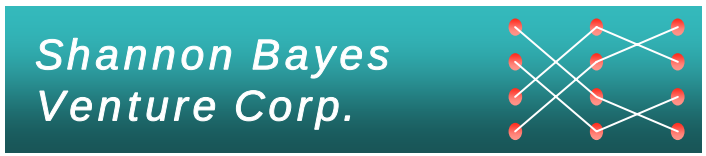
Valuing IP Design Licenses



Calculated Risks.

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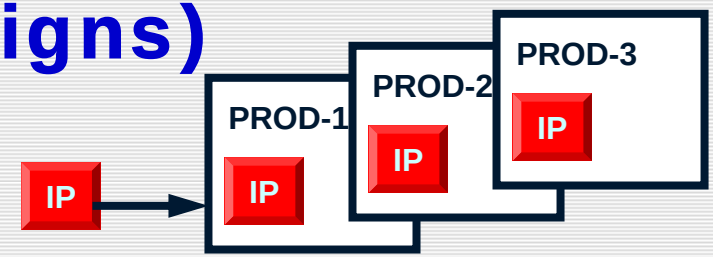
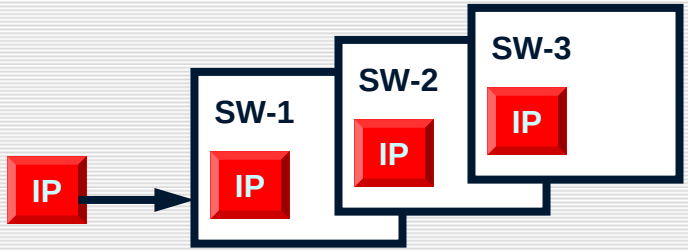
What Is Design IP?

- **IP…as Know-How: can be a design used within a physical product that is sold (for example, protein sequences or circuit designs)**



- **IP…can be a software block used within a larger software system that is sold**



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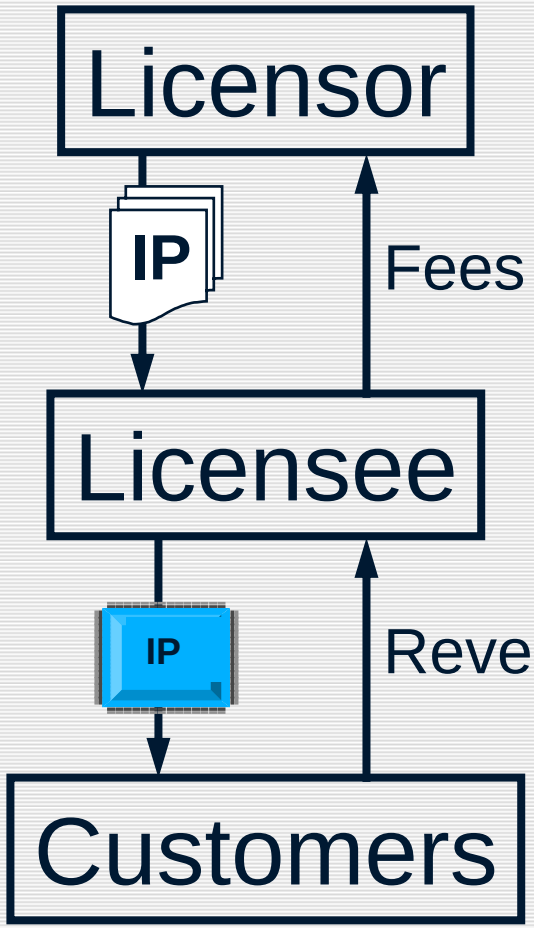
The IP Value Chain



Non-Observable IP Market

Observable Product Market

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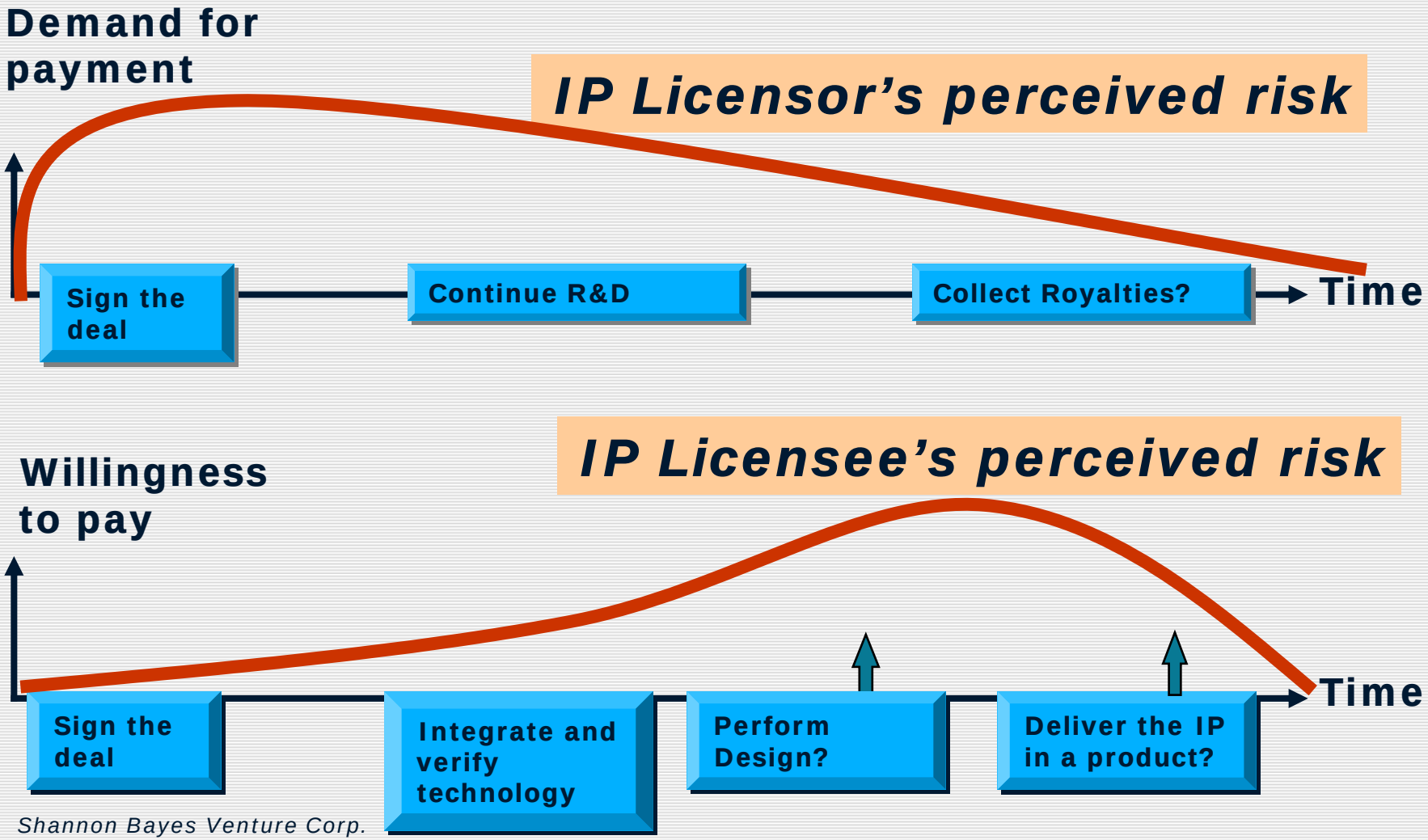
IP Value Chain ≠ Product Value Chain

- **The market for Design IP is private and non-observable**
- **Licensors want payment for each future use of their Design IP**
  - Analogous to payment for each current unit of a delivered product
- **Traditional deal structures…**
  - …use no commonly observed or rigorous economic valuation methods
  - …reflect the private and non-observable IP market
  - …are based on emotion and haggling
  - …fail to bridge the risks of the licensor and licensee

Two Views of the License Agreement

	Licensor's Viewpoint	Licensee's Viewpoint
IP licensee's development costs	Not observable	Based on known internal cost structure
IP licensor's costs	Based on known internal cost structure	Not observable
Contingent license payments	Dependent on IP license terms and conditions	Dependent on IP license terms and conditions
Gross profit from all shipments with embedded IP	Must rely on business intelligence to estimate licensee's gross profit	Best able to estimate

Mismatched Risk Profiles



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Key Questions about IP Designs

- How can buyers and sellers best match their risk and reward profiles?
- What's the best method to value a deal between a specific licensor and licensee?

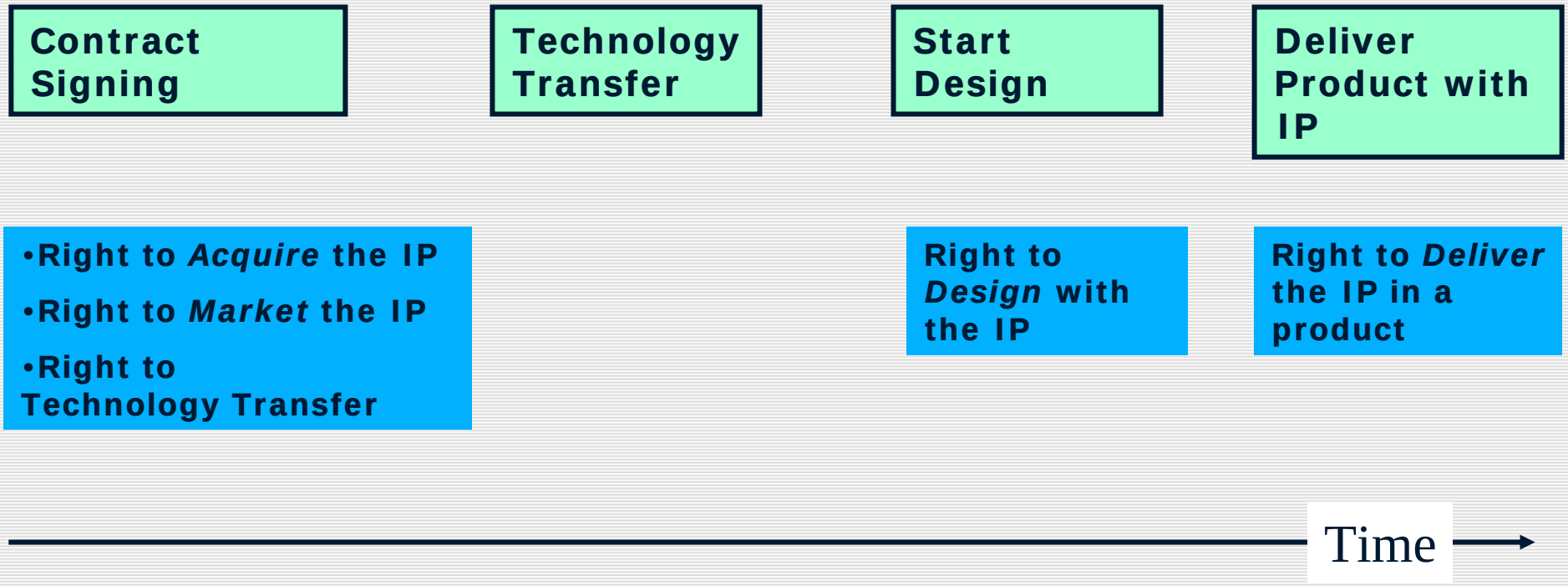
An Alternative IP Licensing Strategy

- Focus on the observable market for products using the IP rather than the non-observable IP market
- Capitalize on inherent structure of Design IP deals (absent from Patent deals)
- Manage risks for both the licensor and licensee
- Use the “value events” associated with licensing of the IP to fine-tune the risks and rewards for both parties
- Account for the fact the IP license is a stream of real options
- Assess the value of the IP in terms of realizable gain to the licensee

Real Options Really are Embedded!

- **Neither side has taken advantage of this stark fact**
  - Real Options are inherent-not just a financial engineer's construct
- **Simple example:**
  - Every multistage project has embedded Option to Abandon

Value Events Reveal Embedded Options

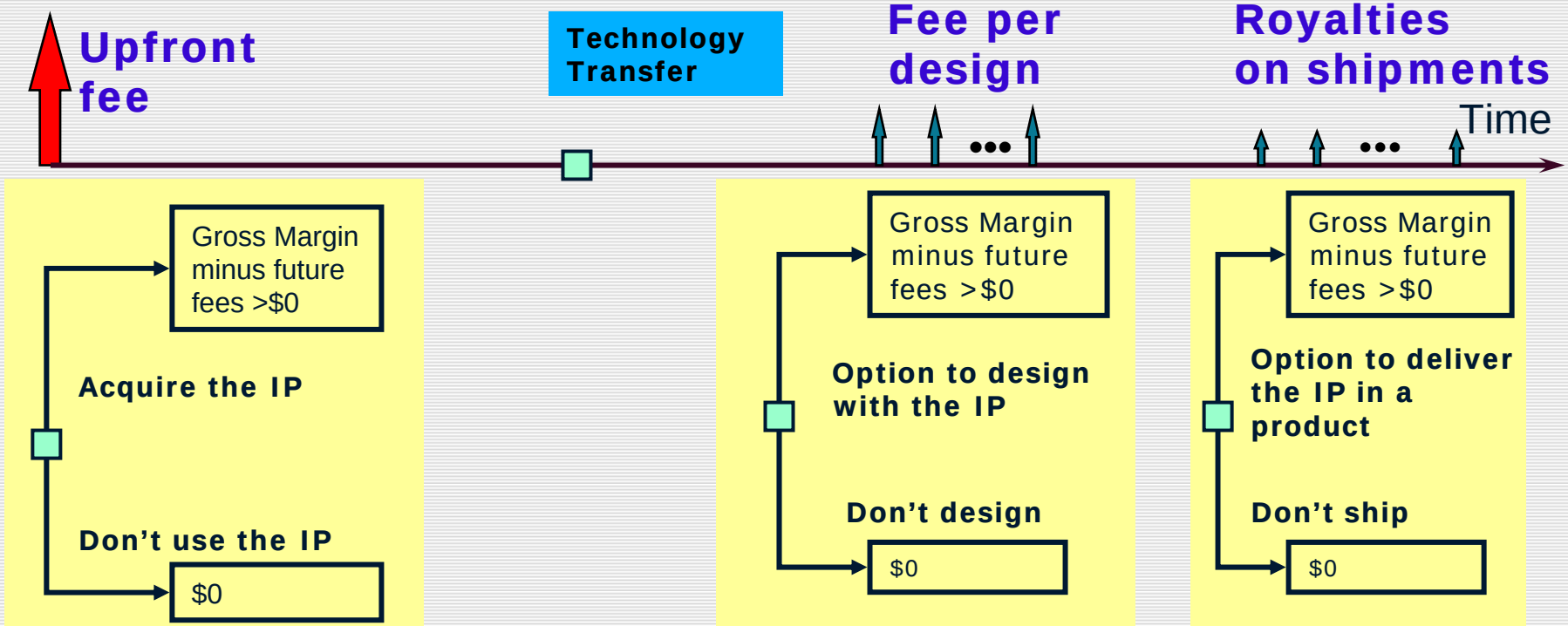


Upfront Fee Buys Future Rights

Sign the deal
- **Right to acquire the IP**
- **Right to market the IP**
- **Commit to technology transfer**

Right to design with the IP

Right to deliver the IP in a product



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What if You are Commitment-Phobic?

- **Upfront Fee seems way too big**

The Option-to-Market™ Innovation

- **An Option-to-Market™ gives the holder (the IP licensee) the right, but not the obligation, to receive licensor's design IP by a certain date**
  - The Licensee can buy an Option-to-Market™ rather than license the IP
  - Licensee must exercise the Option-to-Market™ by the exercise date or the Option-to-Market™ expires
  - Upon exercise, the licensor delivers the IP according to pre-arranged conditions
- **The Option-to-Market™ concept can significantly reduce the licensee's risk**
  - Licensee need only exercise the Option-to-Market™ if a customer for the embedded IP is found
  - License of and development with the IP is only begun if needed

OTM™ Defers Technology Transfer

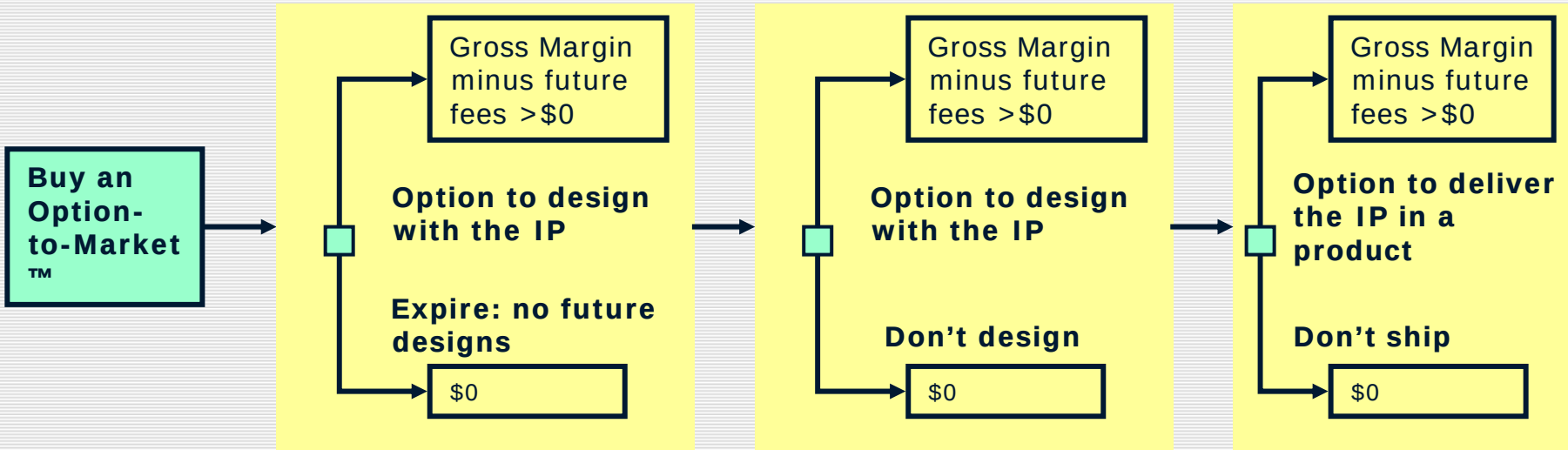
Sign the deal

- **Right to acquire the IP**
- **Right to market the IP**

Right to technology transfer

Right to design with the IP

Right to deliver the IP in a product



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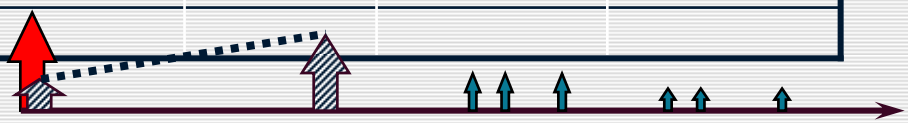
16 Ways To Fine-Tune Risks/Rewards

	Upfront Fee	Option Exercise Price	Fees Per Design	Royalties Per Unit Shipment
Single payment (commodity) deal	●			
Traditional deal	●			●
Traditional deal with design fees	●		●	
Traditional deal with design fees and royalties	●		●	●
Option-to-Market™ with usage fees	●	●	●	
Option-to-Market™ with usage fees	●	●	●	●
Option-to-Market™ with usage fees	●	●		
Option-to-Market™ with usage fees	●	●	●	●
Free Option-to-Market™		●	●	
Free Option-to-Market™		●	●	●
Free Option-to-Market™		●		
Free Option-to-Market™		●		●
Pure pay-per-design			●	
Pure pay-per-use				●
Pure royalty				●
Free lunch				



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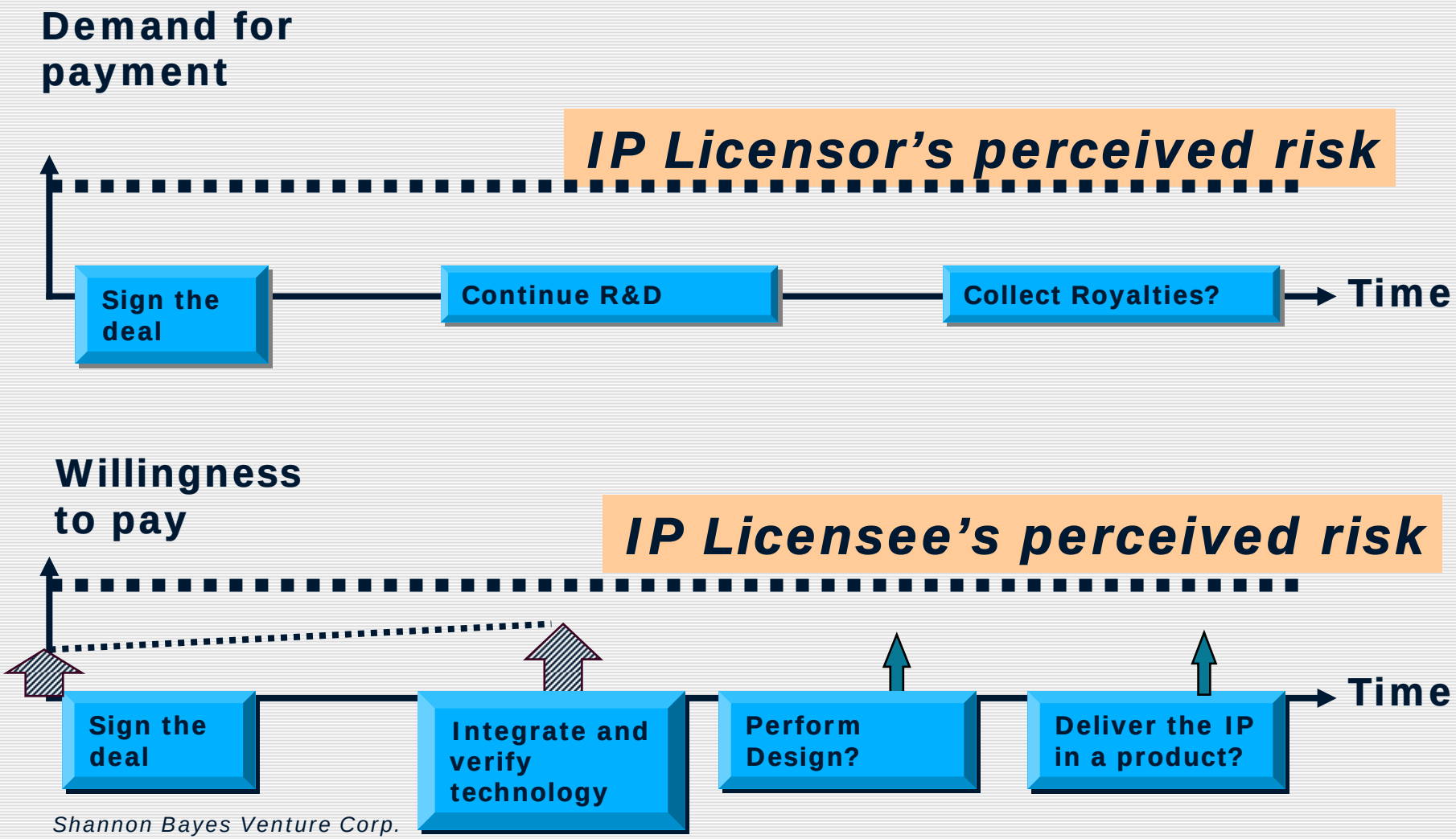
Real Options at the Value Events Can Smooth the Risk Curves



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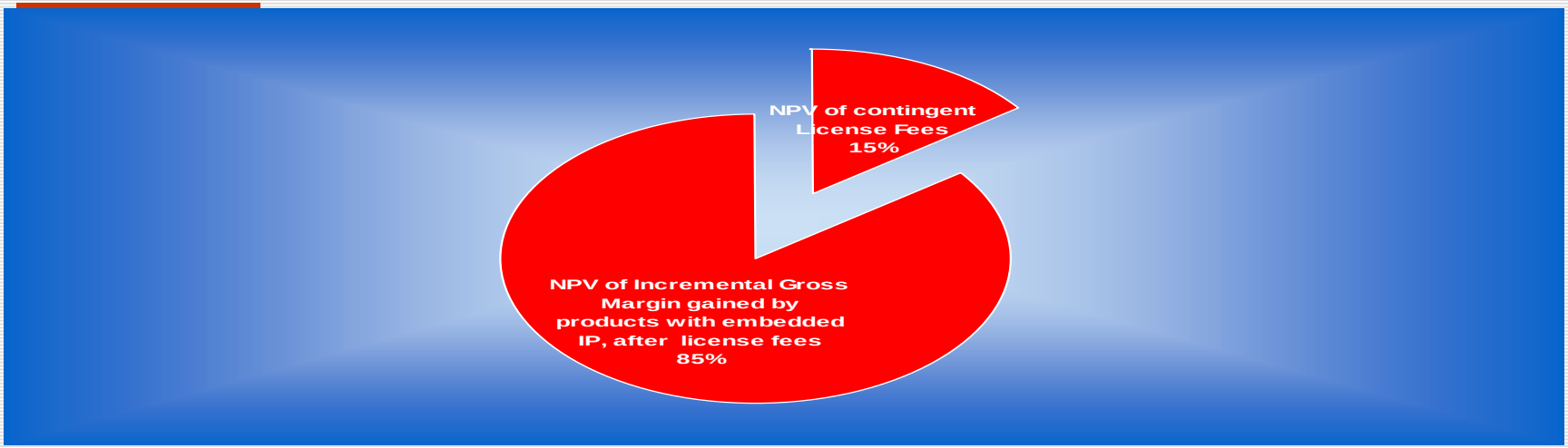
Value of IP = NPV[Generated Cash Flow]

- Identify the source, magnitude, and distribution of the ***incremental profits*** enabled by the IP
- Model and analyze the ***contingent claims*** and risks in the transaction



Discovering Risk Preferences

Contract Elements	Traditional	Deal #2	Deal #3	Deal #4	Deal #5	Deal #6
Upfront license acquisition fee	$2.00	$2.00			$0.20	
Option-to-Market™ fee	--	--	$0.20	$0.20	--	$0.20
Net Contract Signing Fee	$2.00	$2.00	$0.20	$0.20	$0.20	$0.20
Option Exercise Fee (Library Fee)	--	--	$1.00	$1.00	--	$0.50
Per Design Fee	--	$0.08	--	$0.26	$0.48	$0.34
Per Unit Royalties	3.00%	0.00%	11.00%	0.00%	0.00%	2.00%
Assumed Risk Adjusted Discount Rate	5%	5%	5%	5%	5%	5%

Licensee's Contract Value Analysis	Traditional	Deal #2	Deal #3	Deal #4	Deal #5	Deal #6
Contract Signing Fee	$2.00	$2.00	$0.20	$0.20	$0.20	$0.20
Expected NPV of Library Fee	--	--	$0.95	$0.95	--	$0.47
Expected NPV of Design Fees	--	$0.35	--	$1.14	$2.10	$1.46
Expected NPV of Royalties	$0.31	--	$1.14	--	--	$0.16
Net Expected Value of Contract to Licensee	**$2.3**	**$2.3**	**$2.3**	**$2.3**	**$2.3**	**$2.3**

Medici™ Analysis Tool

- **Medici™ is software developed to support the analysis of IP licensing deals**
  - What's the IP worth to a specific licensee?
  - Medici™ focuses on the gross profit enabled by the IP
- **Compute the value of any IP deal based on your own assumptions**
  - Profit forecasts (sales, costs, product lifetime, competition, etc.)
  - Hypothetical deal structures and contingent fee obligations
- **Structure and negotiate accordingly**
  - Use the 16 deal structures to best match licensor/licensee risks and rewards
  - Rapidly develop and evaluate alternative deal structures
  - Define acceptance boundaries ("walk-away" points)

IP Valuation From Licensee's View

- **Parameters**
  - R = required rate of return on the IP investment
  - S = forecast for sales of all identified and future products that use the IP
  - $g_{\%}$ = scenarios forecasting gross margin fraction of S
  - F = licensed fee structure obtained by negotiation
- **Medici™ [R, S, $g_{\%}$, F]= SBVC's analytical tool=**

  Expected Value { NPV [gross margin for future designs, **contingent** on design decisions affected by F] }
- **C =**
  - E{NPV[Direct_Cost(Marketing, R&D, Operations, SG&A)] } that will be incurred to support the product stream
- **IPP = IP Profit from Operations = Medici™ [R, S, $g_{\%}$, F] - C**
  - If IPP > 0, then you are doing better than R
  - If IPP < 0, then you are doing worse than R

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