



Estimate of the Fair Value of Warrants

as of August 8, 2017

Prepared for Issueco*

August 28, 2017

by

DwightGrantConsulting

7332 Eads Ave. La Jolla CA 92037

415-509-3943 dwightgrant27@gmail.com

Draft

Confidential and for the sole use of Issueco as described in our Engagement Letter.

Issueco
General
Table of contents

Exhibit name	Exhibit Number
Executive Summary	1
Assignment and Methodology	2
Valuation	3

Issueco
Estimate of the Fair Value of Warrants
Executive Summary

(1) **Valuation Results**

Fair Value of the 4-year warrant with and exercise price of \$10.75	\$2.40
Fair Value of the 4-year warrants with and exercise price of \$10.75	\$22,061,384
Fair Value of the 6-year warrant with and exercise price of \$12.75	\$2.77
Fair Value of the 6-year warrants with an exercise price of \$12.75	\$25,447,303

Footnote(s):

(1) Refer to Exhibits 2 and 3

Issueco
Estimate of the Fair Value of Warrants
Assignment and Methodology

Assignment

On August 8, 2017, Issueco entered into a strategic relationship with Partco. As part of the agreement and in exchange for value received Issueco transferred to Partco 18.4 million warrants in two tranches. The first tranche of 9.2 million warrants has an exercise price of \$10.75 per share and a term of 4 years. The second tranche of 9.2 million warrants has an exercise price of \$12.75 and a term of 6 years. We have been asked to calculate the fair value of the warrants as of their issue date.

Methodology

At the time of the issuance of the warrants there were 27.2 million shares of common stock in Issueco outstanding. Therefore the analysis must account for participation dilution.¹ There are two feasible approaches of the valuation. The first uses an option pricing approach called contingent claims analysis (CCA), which uses Black-Scholes-Merton formulas for the value of a call option. While this is relatively easy to implement, it has the shortcoming that it does not allow for multiple terms for the warrants as is the case here. Therefore, we use it as a back-up method to support the results of the second approach. See Exhibit 4. The second approach uses a Monte Carlo simulation that allows exercise at the two dates and implements an optimal early exercise rule for the first date.² See Exhibit 3.

Footnote(s):

¹ Dwight Grant, Gautam Vora and David Weeks, "Simulation and the Early-Exercise Option Problem", The Journal of Financial Engineering, Volume 5, Number 3, pp. 211-227.

Issueco
Estimate of the Fair Value of Warrants
Valuation

Initial common stock value

Valuation	
(1) Common share outstanding	27,200,000
(1) 4-year warrants with exercise price = \$10.75	9,200,000
(1) 6-year warrants with exercise price = \$12.75	9,200,000
(2) Initial equity value	\$294,298,580
Initial common stock per share price	\$9.15
Initial common stock value	\$248,879,836
(3) Fair value of the 4-year warrant	\$2.40
Initial value of the 4-year warrants	\$22,061,384
(3) Fair value of the 6-year warrant	\$2.77
Initial value of the 6-year warrants	\$25,447,303
(4) 4-year risk-free rate	1.60%
(4) Forward risk-free rate from year 4 to year 6	2.50%
(5) Volatility of the equity of Issueco	45.00%
(6) Equity level below which 4-year is not exercised	\$295,000,000

Monte Carlo Simulation of the Value of Issueco's Equity including the Cash Paid for Exercise (in millions)									
Iteration	2021		0		Common Shares		Warrant Prices		6-Year
	Equity	Investment	Equity	Investment	Number	Price	4-Year	6-Year	
1	\$197.56	\$0.00	\$134.93	\$0.00	27.20	\$4.96	\$0.00	\$0.00	\$0.00
2	\$1,349.45	\$10.85	\$1,799.32	\$117.30	45.60	\$39.46	\$39.46	\$39.46	\$39.46
3	\$215.76	\$0.00	\$589.30	\$117.30	36.40	\$16.19	\$0.00	\$0.00	\$16.19
4	\$167.59	\$0.00	\$111.56	\$0.00	27.20	\$4.10	\$0.00	\$0.00	\$0.00
5	\$166.42	\$0.00	\$232.33	\$0.00	27.20	\$8.54	\$0.00	\$0.00	\$0.00
6	\$692.61	\$10.85	\$1,305.73	\$117.30	45.60	\$28.63	\$28.63	\$28.63	\$28.63
7	\$1,035.10	\$10.85	\$339.24	\$0.00	36.40	\$9.32	\$9.32	\$0.00	\$0.00
8	\$568.57	\$10.85	\$419.07	\$0.00	36.40	\$11.51	\$11.51	\$0.00	\$0.00
9	\$184.66	\$0.00	\$133.34	\$0.00	27.20	\$4.90	\$0.00	\$0.00	\$0.00
...
...
99,996	\$635.04	\$10.85	\$313.36	\$0.00	36.40	\$8.61	\$8.61	\$0.00	\$0.00
99,997	\$586.08	\$10.85	\$393.47	\$0.00	36.40	\$10.81	\$10.81	\$0.00	\$0.00
99,998	\$211.04	\$0.00	\$228.66	\$0.00	27.20	\$8.41	\$0.00	\$0.00	\$0.00
99,999	\$1,499.22	\$10.85	\$1,027.61	\$117.30	45.60	\$22.54	\$22.54	\$22.54	\$22.54
100,000	\$61.78	\$0.00	\$95.40	\$0.00	27.20	<u>\$3.51</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
Average						\$10.25	\$6.65	\$6.41	

Contingent Claims Analysis Results			Simulation Values
Term of the CCA	4 Years	6 Years	
4-Year warrant values	\$2.41	\$1.84	\$2.40
6-Year warrant values	\$2.66	\$2.06	\$2.77

Footnote(s):

- Per the Agreement.
- Backsolved in the Monte Carlo simulation such that the initial common stock price matches the market price of \$9.15.
- The fair value of the 4-year and the 6-year warrants are outputs of the MC simulation: They are the expected present value of the future common stock holding minus the expected present value of the cost of exercising. The probabilities of exercising are 35% and 26% for the 4-year and 6-year warrants respectively.
 $\$2.40 = \$6.65 \exp(-.016 * 4 - .025 * 2) - (0.35) \$10.75 \exp(-.016 * 4)$ and $\$2.77 = \$6.41 \exp(-.016 * 4 - .025 * 2) - (0.26) \$12.75 \exp(-.016 * 4 - .025 * 2)$
- US Constant Maturity Treasury Rates as obtained from S&P Capital IQ.
- Based on the equity volatility for Issueco for the previous 6 years.
- This threshold maximizes the value of the 4-year warrant and is calculated as described by Grant, Vora and Weeks.