

ROYAL BANK OF CANADA  
Form 424B2  
October 26, 2017

RBC Capital Markets® Filed Pursuant to Rule 424(b)(2)  
Registration Statement No. 333-208507

## Pricing Supplement

Dated October 24, 2017 \$2,000,000  
To the Product Digital Plus Barrier Notes  
Prospectus Supplement Linked to the Common Stock of Microsoft  
ERN-ES-1 Dated January Corporation, Due October 29, 2019  
14, 2016, Prospectus Royal Bank of Canada  
Supplement Dated  
January 8, 2016, and  
Prospectus Dated January  
8, 2016

Royal Bank of Canada is offering the Digital Plus Barrier Notes (the “Notes”) linked to the performance of the common stock of Microsoft Corporation (the “Reference Asset”).

The CUSIP number for the Notes is 78013GFD2. The Notes do not pay interest. Any payments on the Notes are subject to our credit risk. The Notes will not be listed on any securities exchange.

The Notes provide a fixed positive return of \$1,090 of the principal amount if the Final Level of the Reference Asset is at least 80% of the Initial Level (the “Barrier Level”). If the Final Level exceeds the Initial Level by more than 9%, the Notes will provide a one-for-one positive return, subject to the Maximum Redemption Amount of 120.00% of the principal amount of the Notes. However, investors will receive shares of the Reference Asset at maturity if its closing price on the valuation date is less than or equal to the Barrier Level, and the value of these shares is expected to be significantly less than the principal amount of the Notes, as further described below. Accordingly, investors may lose all or a significant portion of their principal amount.

Issue Date: October 27, 2017

Maturity Date: October 29, 2019

Investing in the Notes involves a number of risks. See “Risk Factors” beginning on page S-1 of the prospectus supplement dated January 14, 2016, “Risk Factors” beginning on page PS-4 of the product prospectus supplement dated January 14, 2016, and “Selected Risk Considerations” beginning on page P-7 of this pricing supplement. The Notes will have the terms described in the documents described above, as supplemented or modified by this pricing supplement.

The Notes will not constitute deposits insured by the Canada Deposit Insurance Corporation, the U.S. Federal Deposit Insurance Corporation or any other Canadian or U.S. government agency or instrumentality.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Notes or determined that this pricing supplement is truthful or complete. Any representation to the contrary is a criminal offense.

|   | Per Note | Total          |
|---|----------|----------------|
| Price to public <sup>(1)</sup>                        | 100.00%  | \$2,000,000.00 |
| Underwriting discounts and commissions <sup>(1)</sup> | 1.00%    | \$20,000.00    |
| Proceeds to Royal Bank of Canada                      | 99.00%   | \$1,980,000.00 |

<sup>(1)</sup> Certain dealers who purchase the Notes for sale to certain fee-based advisory accounts may forego some or all of their underwriting discount or selling concessions. The public offering price for investors purchasing the Notes in these accounts may be between \$990 and \$1,000 per \$1,000 in principal amount.

The initial estimated value of the Notes as of the date of this pricing supplement is \$974.52 per \$1,000 in principal amount, which is less than the price to public. The actual value of the Notes at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. We describe our determination of the initial estimated value in more detail below.

RBC Capital Markets, LLC, which we refer to as RBCCM, acting as agent for Royal Bank of Canada, received a commission of \$10.00 per \$1,000 in principal amount of the Notes and used a portion of that commission to allow selling concessions to other dealers of up to \$10.00 per \$1,000 in principal amount of the Notes. The other dealers may forgo, in their sole discretion, some or all of their selling concessions. See “Supplemental Plan of Distribution (Conflicts of Interest)” below.

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## SUMMARY

The information in this “Summary” section is qualified by the more detailed information set forth in this pricing supplement, the product prospectus supplement, the prospectus supplement, and the prospectus.

Issuer: Royal Bank of Canada (“Royal Bank”)  
Issue: Senior Global Medium-Term Notes, Series G  
Underwriter: RBC Capital Markets, LLC  
Reference Asset: Common Stock of Microsoft Corporation  
Bloomberg Ticker: MSFT  
Currency: U.S. Dollars  
Minimum Investment: \$1,000 and minimum denominations of \$1,000 in excess thereof  
Pricing Date: October 24, 2017  
Issue Date: October 27, 2017  
CUSIP: 78013GFD2  
Valuation Date: October 24, 2019

If, on the Valuation Date, the Final Level is greater than the Barrier Level but less than or equal to 120.00% of the Initial Level, then the investor will receive the greater of:

- \$1,090; and
- \$1,000 + (\$1,000 x Percentage Change)

Payment at Maturity (if held to maturity):

If, on the Valuation Date, the Final Level is greater than 120.00% of the Initial Level, then the investor will receive the Maximum Redemption Amount.

However, if, on the Valuation Date, the Percentage Change is less than or equal to – 20%, then the investor will receive at maturity, for each \$1,000 in principal amount, a number of shares of the Reference Asset equal to the Physical Delivery Amount (or at our election, the cash value of those shares).

In this case, you will lose a significant portion, or possibly even all, of the principal amount.

Percentage Change: The Percentage Change, expressed as a percentage, is calculated using the following formula:

Physical Delivery Amount: For each \$1,000 in principal amount, a number of shares of the Reference Asset equal to the principal amount divided by the Initial Level, subject to adjustment as described in the product prospectus supplement. If this number is not a round number, then the number of shares of the Reference Asset to be delivered will be rounded down and the fractional part shall be paid in cash.

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Cash  
 Delivery Amount: The product of the Physical Delivery Amount multiplied by the Final Level  
 Initial Level: \$78.86, which was the closing price of the Reference Asset on the pricing date. The Initial Level will be subject to adjustment in the event of certain corporate events affecting the Reference Asset, as set forth in the product prospectus supplement.  
 Final Level: The closing price of the Reference Asset on the Valuation Date.  
 Maximum Redemption Amount: 120.00% multiplied by the principal amount  
 Barrier Level: \$63.09, which is 80% of the Initial Level, rounded to two decimal places  
 Digital Coupon: 9%  
 Maturity Date: October 29, 2019, subject to extension for market and other disruptions, as described in the product prospectus supplement dated January 14, 2016.  
 Term: 2 years  
 Principal at Risk: The Notes are NOT principal protected. You may lose all or a substantial portion of your principal amount at maturity if there is a percentage decrease from the Initial Level to the Final Level of more than 20%.  
 Calculation Agent: RBCCM  
 U.S. Tax Treatment: By purchasing a Note, each holder agrees (in the absence of a change in law, an administrative determination or a judicial ruling to the contrary) to treat the Note as a pre-paid derivative contract for U.S. federal income tax purposes. However, the U.S. federal income tax consequences of your investment in the Notes are uncertain and the Internal Revenue Service could assert that the Notes should be taxed in a manner that is different from that described in the preceding sentence. Please see the discussion in this pricing supplement under “Supplemental Discussion of U.S. Federal Income Tax Consequences” and the discussion (including the opinion of our counsel Morrison & Foerster LLP) in the product prospectus supplement dated January 14, 2016 under “Supplemental Discussion of U.S. Federal Income Tax Consequences,” which apply to the Notes.  
 Secondary Market: RBCCM (or one of its affiliates), though not obligated to do so, may maintain a secondary market in the Notes after the Issue Date. The amount that you may receive upon sale of your Notes prior to maturity may be less than the principal amount of your Notes.  
 Listing: The Notes will not be listed on any securities exchange.  
 Clearance and Settlement: DTC global (including through its indirect participants Euroclear and Clearstream, Luxembourg as described under “Description of Debt Securities—Ownership and Book-Entry Issuance” in the prospectus dated January 14, 2016).  
 Terms Incorporated in the Master Note: All of the terms appearing above the item captioned “Secondary Market” on the cover page and pages P-2 and P-3 of this pricing supplement and the terms appearing under the caption “General Terms of the Notes” in the product prospectus supplement.

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#### ADDITIONAL TERMS OF YOUR NOTES

You should read this pricing supplement together with the prospectus dated January 8, 2016, as supplemented by the prospectus supplement dated January 8, 2016 and the product prospectus supplement dated January 14, 2016, relating to our Senior Global Medium-Term Notes, Series G, of which these Notes are a part. Capitalized terms used but not defined in this pricing supplement will have the meanings given to them in the product prospectus supplement. In the event of any conflict, this pricing supplement will control. The Notes vary from the terms described in the product prospectus supplement in several important ways. In particular, please note that you may receive shares of the Reference Asset at maturity. You should read this pricing supplement carefully.

This pricing supplement, together with the documents listed below, contains the terms of the Notes and supersedes all prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in “Risk Factors” in the prospectus supplement dated January 8, 2016 and in the product prospectus supplement dated January 14, 2016, as the Notes involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisors before you invest in the Notes. You may access these documents on the SEC website at [www.sec.gov](http://www.sec.gov) as follows (or if that address has changed, by reviewing our filings for the relevant date on the SEC website):

Prospectus dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008810/j18160424b3.htm>

Prospectus Supplement dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008811/p14150424b3.htm>

Product Prospectus Supplement ERN-ES-1 dated January 14, 2016:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036116047764/form424b5.htm>

Our Central Index Key, or CIK, on the SEC website is 1000275. As used in this pricing supplement, “we,” “us,” or “our” refers to Royal Bank of Canada.

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#### HYPOTHETICAL RETURNS

The examples below are based on the following terms:

|                             |   |
|-----------------------------|---|
| Hypothetical Initial Level: | \$100.00*   |
| Hypothetical Barrier Level: | \$80.00 which is 80.00% of the hypothetical Initial Level |
| Digital Coupon:             | 9% of the principal amount                                |
| Maximum Redemption Amount:  | 120.00% multiplied by the principal amount                |
| Principal Amount:           | \$1,000 per Note  |

\* The hypothetical Initial Level of \$100 used in the examples below has been chosen for illustrative purposes only and is not the actual Initial Level. The actual Initial Level is set forth on the cover page of this pricing supplement.

| Final Level | Reference Asset Return | Payment at Maturity              | Physical Delivery Amount as Number of Shares of the Reference Asset | Cash Delivery Amount |
|-------------|------------------------|----------------------------------|---|----------------------|
| \$150.00    | 50.00%                 | \$1,200.00                       | n/a   | n/a                  |
| \$140.00    | 40.00%                 | \$1,200.00                       | n/a   | n/a                  |
| \$130.00    | 30.00%                 | \$1,200.00                       | n/a   | n/a                  |
| \$120.00    | 20.00%                 | \$1,200.00                       | n/a   | n/a                  |
| \$115.00    | 15.00%                 | \$1,150.00                       | n/a   | n/a                  |
| \$110.00    | 10.00%                 | \$1,100.00                       | n/a   | n/a                  |
| \$109.00    | 9.00%                  | \$1,090.00                       | n/a   | n/a                  |
| \$105.00    | 5.00%                  | \$1,090.00                       | n/a   | n/a                  |
| \$100.00    | 0.00%                  | \$1,090.00                       | n/a   | n/a                  |
| \$90.00     | -10.00%                | \$1,090.00                       | n/a   | n/a                  |
| \$80.00     | -20.00%                | Physical or Cash Delivery Amount | 10  | \$800.00             |
| \$70.00     | -30.00%                | Physical or Cash Delivery Amount | 10  | \$700.00             |
| \$60.00     | -40.00%                | Physical or Cash Delivery Amount | 10  | \$600.00             |
| \$50.00     | -50.00%                | Physical or Cash Delivery Amount | 10  | \$500.00             |
| \$40.00     | -60.00%                | Physical or Cash Delivery Amount | 10  | \$400.00             |
| \$30.00     | -70.00%                | Physical or Cash Delivery Amount | 10  | \$300.00             |
| \$20.00     | -80.00%                | Physical or Cash Delivery Amount | 10  | \$200.00             |
| \$10.00     | -90.00%                | Physical or Cash Delivery Amount | 10  | \$100.00             |
| \$0.00      | -100.00%               | Physical or Cash Delivery Amount | 10  | \$0.00               |

The following examples illustrate how the payments at maturity set forth in the table above are calculated:

Example 1: The price of the Reference Asset increases to a Final Level of \$150.00.

Because the Final Level is greater than the Barrier Level, but the Percentage Change is greater than 20.00%, an investor will receive at maturity a payment of \$1,200.00 per \$1,000 in principal amount of the Notes, equal to the Maximum Redemption Amount.

Example 2: The price of the Reference Asset increases to a Final Level of \$112.00.

Because the Final Level is greater than the Barrier Level, but the Percentage Change is not greater than 20.00%, an investor will receive at maturity a payment of \$1,120 per \$1,000 in principal amount of the Notes, calculated as follows:

Principal Amount + (Principal Amount x Percentage Change) = \$1,000 + (\$1,000 x 12%) = \$1,120

Example 3: The price of the Reference Asset decreases to a Final Level of \$90.00.

Although the Final Level is less than the Initial Level, the Final Level is above the Barrier Level. Because the Final Level is above the Barrier Level, an investor will receive at maturity the Digital Coupon, a payment of \$1,090 per \$1,000 in principal amount of the Notes.

Example 4: The price of the Reference Asset decreases to a Final Level of \$40.00.

Because the Final Level is less than the Barrier Level, the investor will receive 10 shares of the Reference Asset at maturity, or at our option, the Cash Delivery Amount, calculated as follows:

Physical Delivery Amount x Final Level = 10 x \$40 = \$400.00

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## SELECTED RISK CONSIDERATIONS

An investment in the Notes involves significant risks. Investing in the Notes is not equivalent to investing directly in the Reference Asset. These risks are explained in more detail in the section “Risk Factors” beginning on page PS-4 of the product prospectus supplement. In addition to the risks described in the prospectus supplement and the product prospectus supplement, you should consider the following:

**Principal at Risk** – Investors in the Notes could lose all or a substantial portion of their principal amount if there is a decline in the trading price of the Reference Asset between the pricing date and the valuation date. If the Final Level on the valuation date is less than the Barrier Level, the value of the shares or cash that you receive at maturity will represent a loss of your principal that is proportionate to the decline in the closing price of the Reference Asset from the pricing date to the valuation date. If you receive shares of the Reference Asset, they may decrease in value between the valuation date and the maturity date, further reducing your return on the Notes.

**The Notes Do Not Pay Interest and Your Return May Be Lower than the Return on a Conventional Debt Security of Comparable Maturity** – There will be no periodic interest payments on the Notes as there would be on a conventional fixed-rate or floating-rate debt security having the same maturity. The return that you will receive on the Notes, which could be negative, may be less than the return you could earn on other investments. Even if your return is positive, your return may be less than the return you would earn if you bought a conventional senior interest bearing debt security of Royal Bank.

**Your Potential Payment at Maturity Is Limited** – The Notes will provide less opportunity to participate in the appreciation of the Reference Asset than an investment in a security linked to the Reference Asset providing full participation in the appreciation, because the payment at maturity will not exceed the Maximum Redemption Amount. Accordingly, your return on the Notes may be less than your return would be if you made an investment in the Reference Asset or in a security directly linked to the positive performance of the Reference Asset.

**Payments on the Notes Are Subject to Our Credit Risk, and Changes in Our Credit Ratings Are Expected to Affect the Market Value of the Notes** – The Notes are Royal Bank’s senior unsecured debt securities. As a result, your receipt of the amount due on the maturity date is dependent upon Royal Bank’s ability to repay its obligations at that time. This will be the case even if the price of the Reference Asset increases after the pricing date. No assurance can be given as to what our financial condition will be at maturity of the Notes.

**There May Not Be an Active Trading Market for the Notes—Sales in the Secondary Market May Result in Significant Losses** – There may be little or no secondary market for the Notes. The Notes will not be listed on any securities exchange. RBCCM and other affiliates of Royal Bank may make a market for the Notes; however, they are not required to do so. RBCCM or any other affiliate of Royal Bank may stop any market-making activities at any time. Even if a secondary market for the Notes develops, it may not provide significant liquidity or trade at prices advantageous to you. We expect that transaction costs in any secondary market would be high. As a result, the difference between bid and asked prices for your Notes in any secondary market could be substantial.

**You Must Rely on Your Own Evaluation of the Merits of an Investment Linked to the Reference Asset** – In the ordinary course of their business, our affiliates may have expressed views on expected movements in the Reference Asset, and may do so in the future. These views or reports may be communicated to our clients and clients of our affiliates. However, these views are subject to change from time to time. Moreover, other professionals who transact business in markets relating to the Reference Asset may at any time have significantly different views from those of ours and our affiliates. For these reasons, you are encouraged to derive information concerning the Reference Asset from multiple sources, and you should not rely solely on views expressed by us or our affiliates.

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**The Initial Estimated Value of the Notes Is Less than the Price to the Public** – The initial estimated value set forth on the cover page of this pricing supplement does not represent a minimum price at which we, RBCCM or any of our affiliates would be willing to purchase the Notes in any secondary market (if any exists) at any time. If you attempt to sell the Notes prior to maturity, their market value may be lower than the price you paid for them and the initial estimated value. This is due to, among other things, changes in the price of the Reference Asset, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the underwriting discount and the estimated costs relating to our hedging of the Notes. These factors, together with various credit, market and economic factors over the term of the Notes, are expected to reduce the price at which you may be able to sell the Notes in any secondary market and will affect the value of the Notes in complex and unpredictable ways. Assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your Notes prior to maturity may be less than your original purchase price, as any such sale price would not be expected to include the underwriting discount and the hedging costs relating to the Notes. In addition to bid-ask spreads, the value of the Notes determined for any secondary market price is expected to be based on the secondary rate rather than the internal funding rate used to price the Notes and determine the initial estimated value. As a result, the secondary price will be less than if the internal funding rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Notes to maturity.

**The Initial Estimated Value of the Notes Is an Estimate Only, Calculated as of the Time the Terms of the Notes Were Set** – The initial estimated value of the Notes is based on the value of our obligation to make the payments on the Notes, together with the mid-market value of the derivative embedded in the terms of the Notes. See “Structuring the Notes” below. Our estimate is based on a variety of assumptions, including our credit spreads, expectations as to dividends, interest rates and volatility, and the expected term of the Notes. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Notes or similar securities at a price that is significantly different than we do.

The value of the Notes at any time after the pricing date will vary based on many factors, including changes in market conditions, and cannot be predicted with accuracy. As a result, the actual value you would receive if you sold the Notes in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Notes.

**The Business Activities of Royal Bank and Our Affiliates May Create Conflicts of Interest** – We and our affiliates expect to engage in trading activities related to the Reference Asset that are not for the account of holders of the Notes or on their behalf. These trading activities may present a conflict between the holders’ interests in the Notes and the interests we and our affiliates will have in their proprietary accounts, in facilitating transactions, including options and other derivatives transactions, for their customers and in accounts under their management. These trading activities, if they influence the price of the Reference Asset, could be adverse to the interests of the holders of the Notes. We and one or more of our affiliates may, at present or in the future, engage in business with Microsoft Corporation, the issuer of the Reference Asset (the “Reference Asset Issuer”), including making loans to or providing advisory services. These services could include investment banking and merger and acquisition advisory services. These activities may present a conflict between our or one or more of our affiliates’ obligations, and your interests as a holder of the Notes. Moreover, we and our affiliates may have published, and in the future expect to publish, research reports with respect to the Reference Asset. This research is modified from time to time without notice and may express opinions or provide recommendations that are inconsistent with purchasing or holding the Notes. Any of these activities may affect the price of the Reference Asset and, therefore, the market value of the Notes.

**Owning the Notes Is Not the Same as Owning the Reference Asset** – The return on your Notes is unlikely to reflect the return you would realize if you actually owned the Reference Asset. For example, you will not receive or be entitled to receive any dividend payments or other distributions on the Reference Asset during the term of your Notes; accordingly, an investment in the Notes may return less than an actual investment in the Reference Asset. As an

owner of the Notes, you will not have voting rights or any other rights that holders of the Reference

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Asset may have. Furthermore, the Reference Asset may appreciate substantially during the term of the Notes, and you will not fully participate in such appreciation.

Market Disruption Events and Adjustments – The payment at maturity and the valuation date are subject to adjustment as described in the product prospectus supplement. For a description of what constitutes a market disruption event as well as the consequences of that market disruption event, see “General Terms of the Notes—Market Disruption Events” in the product prospectus supplement.

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#### INFORMATION REGARDING THE REFERENCE ASSET

We have derived the following information from publicly available documents published by the Reference Asset Issuer. We have not independently verified the accuracy or completeness of the following information. Microsoft Corporation develops, manufactures, licenses, sells, and supports software products. The company offers operating system software, server application software, business and consumer applications software, software development tools, and Internet and intranet software. Microsoft also develops video game consoles and digital music entertainment devices. The Reference Asset is registered under the Exchange Act. Information provided to or filed with the Securities and Exchange Commission by the issuer of Reference Asset under the Exchange Act can be located through the Securities and Exchange Commission's website at [www.sec.gov](http://www.sec.gov). In addition, information regarding the Reference Asset may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents.

#### Historical Information

The graph below sets forth information relating to the historical performance of the Reference Asset. In addition, below the graph is a table setting forth the intra-day high, intra-day low and period-end closing prices of the Reference Asset. The information provided in this table is for the four calendar quarters from 2008 to 2016, the first, second and third calendar quarters of 2017 and for the period from October 1, 2017 through October 24, 2017.

We obtained the information regarding the historical performance of the Reference Asset in the chart below from Bloomberg Financial Markets.

We have not independently verified the accuracy or completeness of the information obtained from Bloomberg Financial Markets. The historical performance of the Reference Asset should not be taken as an indication of its future performance, and no assurance can be given as to the Final Level of the Reference Asset. We cannot give you assurance that the performance of the Reference Asset will result in any positive return on your investment.

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| Period-Start Date | Period-End Date | High Intra-Day Price of<br>the Reference Asset<br>(\$) | Low Intra-Day Price of<br>the Reference Asset<br>(\$) | Period-End Closing<br>Price of the Reference<br>Asset (\$) |
|-------------------|-----------------|--|---|--|
| 1/1/2008          | 3/31/2008       | 35.96  | 26.87   | 28.38  |
| 10/1/2008         | 6/30/2008       | 32.10  | 27.11   | 27.51  |
| 7/1/2008          | 9/30/2008       | 28.50  | 24.01   | 26.69  |
| 10/1/2008         | 12/31/2008      | 27.47  | 17.50   | 19.34  |
| 1/1/2009          | 3/31/2009       | 21.00  | 14.87   | 18.37  |
| 4/1/2009          | 6/30/2009       | 24.33  | 18.19   | 23.77  |
| 7/1/2009          | 9/30/2009       | 26.25  | 22.00   | 25.89  |
| 10/1/2009         | 12/31/2009      | 31.50  | 24.43   | 30.96  |
| 1/1/2010          | 3/31/2010       | 31.24  | 27.57   | 29.27  |
| 4/1/2010          | 6/30/2010       | 31.57  | 22.95   | 23.01  |
| 7/1/2010          | 9/30/2010       | 26.41  | 22.74   | 24.49  |
| 10/1/2010         | 12/31/2010      | 28.39  | 23.78   | 27.85  |
| 1/1/2011          | 3/31/2011       | 29.46  | 24.69   | 25.36  |
| 4/1/2011          | 6/30/2011       | 26.87  | 23.65   | 26.00  |
| 7/1/2011          | 9/30/2011       | 28.15  | 23.79   | 24.89  |
| 10/1/2011         | 12/31/2011      | 27.50  | 24.26   | 25.96  |
| 1/1/2012          | 3/31/2012       | 32.95  | 26.39   | 32.25  |
| 4/1/2012          | 6/30/2012       | 32.89  | 28.33   | 30.59  |
| 7/1/2012          | 9/30/2012       | 31.60  | 28.54   | 29.78  |
| 10/1/2012         | 12/31/2012      | 30.25  | 26.26   | 26.73  |
| 1/1/2013          | 3/31/2013       | 28.66  | 26.28   | 28.61  |
| 4/1/2013          | 6/30/2013       | 35.73  | 28.12   | 34.53  |
| 7/1/2013          | 9/30/2013       | 36.42  | 30.95   | 33.31  |
| 10/1/2013         | 12/31/2013      | 38.98  | 32.81   | 37.43  |
| 1/1/2014          | 3/31/2014       | 41.50  | 34.63   | 40.99  |
| 4/1/2014          | 6/30/2014       | 42.29  | 38.52   | 41.70  |
| 7/1/2014          | 9/30/2014       | 47.57  | 41.06   | 46.36  |
| 10/1/2014         | 12/31/2014      | 50.05  | 42.10   | 46.45  |
| 1/1/2015          | 3/31/2015       | 47.91  | 40.24   | 40.66  |
| 4/1/2015          | 6/30/2015       | 49.54  | 40.13   | 44.15  |
| 7/1/2015          | 9/30/2015       | 48.41  | 39.72   | 44.26  |
| 10/1/2015         | 12/31/2015      | 56.85  | 43.76   | 55.48  |
| 1/1/2016          | 3/31/2016       | 55.64  | 48.19   | 55.23  |
| 4/1/2016          | 6/30/2016       | 56.74  | 48.04   | 51.17  |
| 7/1/2016          | 9/30/2016       | 58.70  | 50.40   | 57.60  |
| 10/1/2016         | 12/31/2016      | 64.10  | 56.32   | 62.14  |
| 1/1/2017          | 3/31/2017       | 66.19  | 61.95   | 65.86  |
| 4/1/2017          | 6/30/2017       | 72.88  | 64.86   | 68.93  |
| 7/1/2017          | 9/30/2017       | 75.96  | 68.03   | 74.49  |
| 10/1/2017         | 10/24/2017      | 79.35  | 73.71   | 78.86  |

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS.

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#### SUPPLEMENTAL PLAN OF DISTRIBUTION (CONFLICTS OF INTEREST)

Delivery of the Notes will be made against payment for the Notes on October 27, 2017, which is the third (3<sup>rd</sup>) business day following the pricing date (this settlement cycle being referred to as “T+3”). For additional information as to the relationship between us and RBCCM, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated January 8, 2016.

In the initial offering of the Notes, they were offered to investors at a purchase price equal to par, except with respect to certain accounts as indicated on the cover page of this document.

We expect to deliver the Notes on a date that is greater than two business days following the trade date. Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the Notes more than two business days prior to the original issue date will be required to specify alternative arrangements to prevent a failed settlement.

The value of the Notes shown on your account statement may be based on RBCCM’s estimate of the value of the Notes if RBCCM or another of our affiliates were to make a market in the Notes (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Notes in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately three months after the issue date of the Notes, the value of the Notes that may be shown on your account statement may be higher than RBCCM’s estimated value of the Notes at that time. This is because the estimated value of the Notes will not include the underwriting discount and our hedging costs and profits; however, the value of the Notes shown on your account statement during that period may be a higher amount, reflecting the addition of RBCCM’s underwriting discount and our estimated costs and profits from hedging the Notes. This excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Notes, it expects to do so at prices that reflect their estimated value.

We may use this pricing supplement in the initial sale of the Notes. In addition, RBCCM or another of our affiliates may use this pricing supplement in a market-making transaction in the Notes after their initial sale. Unless we or our agent informs the purchaser otherwise in the confirmation of sale, this pricing supplement is being used in a market-making transaction.

#### STRUCTURING THE NOTES

The Notes are our debt securities, the return on which is linked to the performance of the Reference Asset. As is the case for all of our debt securities, including our structured notes, the economic terms of the Notes reflect our actual or perceived creditworthiness at the time of pricing. In addition, because structured notes result in increased operational, funding and liability management costs to us, we typically borrow the funds under these Notes at a rate that is more favorable to us than the rate that we might pay for a conventional fixed or floating rate debt security of comparable maturity. Using this relatively lower implied borrowing rate rather than the secondary market rate, is a factor that reduced the initial estimated value of the Notes at the time their terms were set. Unlike the estimated value included in this pricing supplement, any value of the Notes determined for purposes of a secondary market transaction may be based on a different funding rate, which may result in a lower value for the Notes than if our initial internal funding rate were used.

In order to satisfy our payment obligations under the Notes, we may choose to enter into certain hedging arrangements (which may include call options, put options or other derivatives) on the issue date with RBCCM or one of our other subsidiaries. The terms of these hedging arrangements take into account a number of factors, including our creditworthiness, interest rate movements, the volatility of the Reference Asset, and the tenor of the Notes. The economic terms of the Notes and their initial estimated value depend in part on the terms of these hedging arrangements.

The lower implied borrowing rate is a factor that reduced the economic terms of the Notes to you. The initial offering price of the Notes also reflects the underwriting commission and our estimated hedging costs. These factors resulted in the initial estimated value for the Notes on the pricing date being less than their public offering price. See “Selected Risk Considerations—The Initial Estimated Value of the Notes Is Less than the Price to the Public” above.

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Digital Plus Barrier Notes  
Linked to the Common Stock of Microsoft  
Corporation, Due October 29, 2019

#### SUPPLEMENTAL DISCUSSION OF U.S. FEDERAL INCOME TAX CONSEQUENCES

The following disclosure supplements, and to the extent inconsistent supersedes, the discussion in the product prospectus supplement dated January 14, 2016 under “Supplemental Discussion of U.S. Federal Income Tax Consequences.”

If the Notes are settled by physical delivery of a number of shares of the Reference Asset at maturity, although no assurances can be provided in this regard, a U.S. holder may generally expect not to recognize gain or loss upon maturity. However, a U.S. holder would generally be required to recognize loss, with respect to any cash received in lieu of a fractional share, equal to the difference between the cash received and the pro rata portion of the tax basis allocable to a fractional share. Any such loss would be treated as capital loss. A U.S. holder’s tax basis in the shares of Reference Asset delivered would generally equal its tax basis in the Notes, other than any amount allocable to a fractional share. A U.S. holder’s holding period for the shares of the Reference Asset delivered would begin on the day after the shares of the Reference Asset are received.

Under Section 871(m) of the Code, a “dividend equivalent” payment is treated as a dividend from sources within the United States. Such payments generally would be subject to a 30% U.S. withholding tax if paid to a non-U.S. holder. Under U.S. Treasury Department regulations, payments (including deemed payments) with respect to equity-linked instruments (“ELIs”) that are “specified ELIs” may be treated as dividend equivalents if such specified ELIs reference an interest in an “underlying security,” which is generally any interest in an entity taxable as a corporation for U.S. federal income tax purposes if a payment with respect to such interest could give rise to a U.S. source dividend. However, the IRS has issued guidance that states that the U.S. Treasury Department and the IRS intend to amend the effective dates of the U.S. Treasury Department regulations to provide that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2019. Based on our determination that the Notes are not delta-one instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Notes. However, it is possible that the Notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events affecting the Reference Asset or the Notes, and following such occurrence the Notes could be treated as subject to withholding on dividend equivalent payments. Non-U.S. holders that enter, or have entered, into other transactions in respect of the Reference Asset or the Notes should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the Notes and their other transactions. If any payments are treated as dividend equivalents subject to withholding, we (or the applicable withholding agent) would be entitled to withhold taxes without being required to pay any additional amounts with respect to amounts so withheld.

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Digital Plus Barrier Notes  
Linked to the Common Stock of Microsoft  
Corporation, Due October 29, 2019

#### VALIDITY OF THE NOTES

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Notes has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Notes have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Notes will be validly issued and, to the extent validity of the Notes is a matter governed by the laws of the Province of Ontario or Québec, or the laws of Canada applicable therein, and will be valid obligations of the Bank, subject to equitable remedies which may only be granted at the discretion of a court of competent authority, subject to applicable bankruptcy, to rights to indemnity and contribution under the Notes or the Indenture which may be limited by applicable law; to insolvency and other laws of general application affecting creditors' rights, to limitations under applicable limitations statutes, and to limitations as to the currency in which judgments in Canada may be rendered, as prescribed by the Currency Act (Canada). This opinion is given as of the date hereof and is limited to the laws of the Provinces of Ontario and Québec and the federal laws of Canada applicable thereto. In addition, this opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and certain factual matters, all as stated in the letter of such counsel dated January 8, 2016, which has been filed as Exhibit 5.1 to Royal Bank's Form 6-K dated January 8, 2016.

In the opinion of Morrison & Foerster LLP, when the Notes have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Notes will be valid, binding and enforceable obligations of the Bank, entitled to the benefits of the Indenture, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith). This opinion is given as of the date hereof and is limited to the laws of the State of New York. This opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel's reliance on the Bank and other sources as to certain factual matters, all as stated in the legal opinion dated January 8, 2016, which has been filed as Exhibit 5.2 to the Bank's Form 6-K dated January 8, 2016.

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