



EE#301: IBM's high-end server dominance appears secure

Chris Whitmore, CFA

Research Analyst
(+1) 415 617-3213
chris.whitmore@db.com

Joakim Mahlberg

Research Associate
() 415 617-3348
joakim.mahlberg@db.com

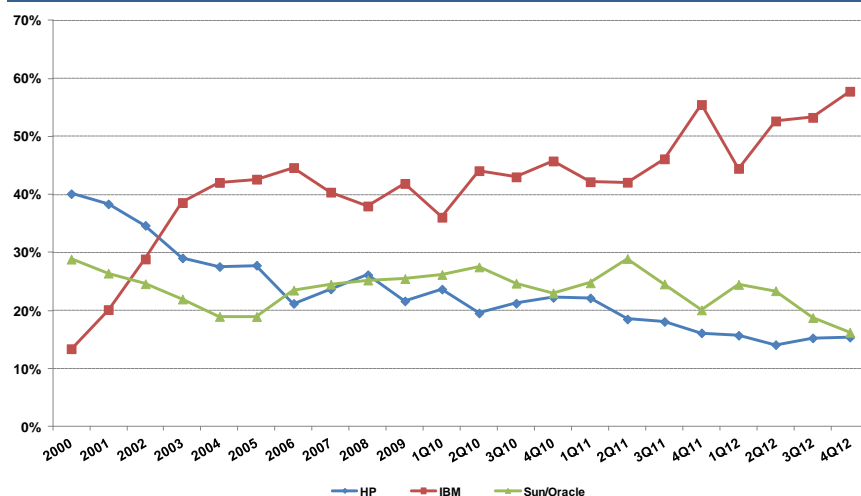
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Stock prices

	Close	W/W	Y/Y	YTD
AAPL	442.66	-4.2%	-26.2%	-13.1%
DELL	14.33	1.3%	-13.6%	43.7%
EMC	23.89	-1.1%	-20.0%	-3.8%
HPQ	23.84	3.5%	0.0%	74.3%
IBM	213.30	0.6%	2.2%	12.4%
LXK	26.40	3.6%	-20.6%	14.7%
NTAP	34.16	1.8%	-23.7%	4.1%
PBI	14.86	-1.1%	-15.5%	42.7%
SMT	1.39	-14.2%	-64.1%	-2.1%
XRX	8.60	0.0%	6.5%	28.6%
S&P 500	1569	0.8%	11.4%	11.9%
NASDAQ	3268	0.7%	5.7%	10.4%

Figure 1: Mid-range server market share



Source: IDC

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Figure 2: Industry Comp sheet

Valuation Matrix														
Company Name	Price	Mrkt Cap	Rating	P/E			EV/EBITDA*			EV/Sales*			EV/FCF*	
				CY12A	CY13E	CY14E	CY12A	CY13E	CY14E	CY12A	CY13E	CY14E	CY13E	CY14E
Apple	442.66	\$415,683	Buy	10.0	9.8	8.9	4.8	4.0	3.1	1.7	1.3	1.1	5.9	4.7
Dell	14.33	\$25,038	Hold	8.3	9.6	8.4	4.2	4.1	3.2	0.3	0.3	0.2	5.2	4.0
EMC	23.89	\$50,182	Buy	14.0	12.9	11.7	7.7	6.3	4.9	2.0	1.6	1.3	6.9	5.5
Hewlett-Packard	23.84	\$46,345	Sell	6.0	7.2	7.5	4.4	5.0	4.8	0.5	0.5	0.5	12.2	8.7
IBM	213.30	\$237,725	Buy	14.0	12.6	11.6	11.0	9.4	8.7	2.8	2.6	2.4	16.7	13.4
Lexmark	26.40	\$1,705	Sell	7.5	7.0	8.8	2.4	2.2	2.4	0.4	0.4	0.4	5.8	8.2
NetApp, Inc.	34.16	\$12,312	Buy	15.1	14.1	12.6	8.1	8.0	6.0	1.3	1.3	1.1	7.0	5.3
Pitney Bowes	14.86	\$2,992	Hold	6.6	8.0	8.5	6.1	6.0	5.9	1.2	1.2	1.1	8.7	8.2
SMART Technologies	1.39	\$168	Buy	9.4	NMF	15.4	5.8	6.7	5.2	0.5	0.6	0.6	10.0	7.9
Xerox	8.60	\$10,525	Hold	8.4	7.7	7.3	3.9	3.6	3.7	0.6	0.5	0.5	6.5	5.8
Average IT HW				9.9	9.9	10.1	5.8	5.5	4.8	1.1	1.0	0.9	8.5	7.2

*EV and P/FCF calculations use current market value and share count.

Operating Metrics														
Company (Fiscal Yr)	Gross Margin			Operating Margin			ROA			ROE			Rev/PPE	Net Debt/Market Cap
	CY12A	CY13E	CY14E	CY12A	CY13E	CY14E	CY12A	CY13E	CY14E	CY12A	CY13E	CY14E	CY13E	
Apple (Sept)	41.9%	38.5%	38.7%	33.5%	29.9%	30.5%	28.1%	24.2%	23.1%	32.8%	26.8%	24.3%	9.6	-40%
Dell (Jan)	22.3%	22.2%	22.8%	7.0%	6.0%	6.6%	8.4%	7.0%	7.5%	28.2%	21.7%	21.8%	39.7	-33%
EMC (Dec)	62.8%	63.5%	63.9%	18.8%	19.2%	19.8%	10.7%	10.6%	10.5%	12.9%	12.5%	12.4%	10.5	-28%
HPQ (Oct)	23.3%	22.5%	22.2%	9.3%	8.2%	8.0%	10.1%	8.3%	7.6%	33.5%	25.0%	20.6%	10.4	26%
IBM (Dec)	48.7%	49.4%	49.5%	20.8%	22.3%	22.5%	18.2%	19.5%	19.8%	92.8%	84.8%	79.9%	8.2	17%
Lexmark (Dec)	38.9%	39.1%	36.4%	9.8%	9.8%	8.1%	10.6%	9.7%	7.5%	19.0%	17.5%	13.4%	4.5	-23%
NetApp (Dec)	58.9%	59.5%	59.8%	9.9%	11.5%	12.9%	5.8%	7.3%	7.9%	11.1%	15.1%	15.5%	5.6	-35%
Pitney Bowes (Dec)	50.4%	49.6%	48.8%	15.0%	14.5%	14.1%	9.4%	8.8%	8.4%	NMF	NMF	NMF	11.2	90%
SMART Technologies (Mar)	43.5%	43.3%	43.0%	3.0%	2.5%	5.4%	3.9%	3.0%	5.8%	NMF	NMF	NMF	5.8	68%
Xerox (Dec)	31.4%	31.4%	31.2%	9.3%	9.4%	9.1%	6.9%	7.1%	6.8%	11.6%	11.6%	10.6%	13.0	14%
Average IT HW	42.2%	41.9%	41.6%	13.6%	13.3%	13.7%	11.2%	10.5%	10.5%	30.3%	26.9%	24.8%	11.8	6%

Priced as of 03/28/13.

Source: Deutsche Bank estimates and company data.





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New High-end systems from Oracle and IBM

Both IBM and Oracle are in the early stages of new high-end server refreshes. IBM announced its updated Power 7+ in the fall and is now rolling out updated systems. Oracle recently refreshed its high-end SPARC server offering with the new SPARC T5 server series (which is an upgrade of its existing S3 core). As outlined in Figure 3 below, we compare Oracle's SPARC T5-4 with IBM's Power 770 and 780 server offerings and it appears that IBM edges out Oracle's latest offering on two important metrics; 1) processor speed (up to 4.42GHz) and 2) L3 cache (per core). That said, the margin between the two vendors has narrowed as the T-5 offers a significant gain in performance vs. its predecessor (>2x) and offers more cores per server and faster I/O (PCIe 3). Nonetheless, we are skeptical of Oracle's claims that the T5 servers offer significant outperformance vs. the latest IBM products. Instead, Oracle's benchmark tests were made against older generation IBM servers and therefore are less relevant. As seen in Figure 5, IBM has continued to take share from HPQ and Oracle over the last decade and despite Oracle's latest product announcement, we do not expect that share trajectory to change in the medium term.

Figure 3: SPARC T5-4 vs. Power 770 & 780

	No. of cores	Processor Speed	L2 cache (per core)	L3 cache (per core)	PCI adapter slots	Memory
SPARC T5-4 server	16	3.6 GHz	128KB	8MB shared	16	up to 2TB
Power 770 server	4 or 8	up to 4.2 GHz	256KB	10MB	6	up to 1TB
Power 780 server	4 or 8	up to 4.4 GHz	256KB	10MB	6	up to 1TB

Source: Company data

We've seen this rhetoric from Oracle before

In 2010, Oracle issued a series of press releases and ran a continuum of ads (on the front page of the Wall Street Journal) highlighting performance benchmark records and superior performance vs. IBM's servers. These benchmarks were achieved using a



configuration that was not commercially viable for most users. Rather, it was benchmark setting for marketing purposes (these are highly configurable systems). In similar fashion, IBM produced a series of benchmarks and marketing messaging that repudiated this claim (see: <http://www-03.ibm.com/systems/power/migratetoibm/facts/oracle.html>). It's not uncommon for all vendors to produce benchmarks in order to position their products in the most favorable light. In the past several years, however, Oracle has been more aggressive than most (and been cited for multiple times for false or aggressive marketing by the NAD). Despite the benchmarks; the customers voted by migrating workloads off SPARC on to x86 (for lower-end workloads) and Power 7+ (for higher-end workloads). Over the past several years, IBM has consolidated roughly 20pts of share in the mid-range server market - at the expense of both HP and Oracle-Sun.

Skepticism around Oracle's most recent claims seems warranted

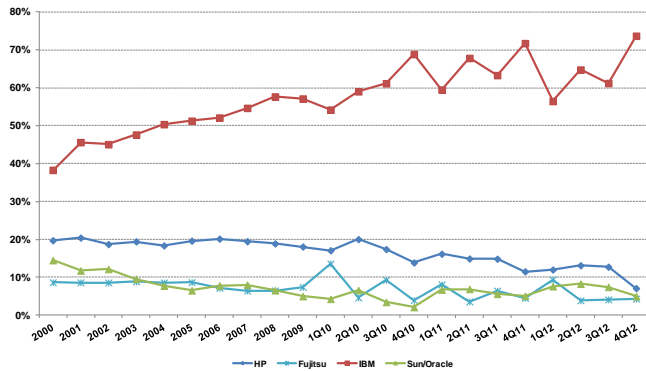
We contacted a few industry contacts to 'sanity check' some of the claims that Oracle is making regarding its newest systems. In general, there appears to be a growing lack of trust around Oracle's positioning of its hardware products and the real world benefits of its systems vs. its marketing message. Although our contacts represent a small sample of potential customers, it does suggest that investors should view some of the commentary from Oracle with a degree of healthy skepticism. More specifically, we heard the following from some of our industry contacts regarding Oracle's announcements last week:

- Oracle is benchmarking a system that won't be available for 6 months against 3-6 year old systems and configurations. It is also comparing clustered systems to non-clustered system. Oracle is making apples-to-oranges comparisons.
- Oracle's cost benchmarks exclude service support (while it's included in the cost of IBM systems). In typical Oracle fashion, they lure you in with low initial costs, then make it up (and then some) on exorbitant license and/ or support costs.
- The migration to Linux – x86 continues and many users have 'islanded' or isolated their SPARC footprint and will grow and/ or migrate workloads on to commodity hardware.

Over the next few weeks, we expect IBM to counter with a similar series of messaging exclaiming the performance leadership of Power 7+. So, the marketing from both vendors will probably get louder. Our initial review of the new SPARC product suggests that while it narrowed the large performance gap with IBM's Power 7+ product, the advertised performance benefit vs. IBM is overstated, if there is any at all. And, it seems unlikely that the performance of the new SPARC systems will be 'enough' to shift the trends towards ongoing consolidation of higher-end workloads onto IBM systems and lower-end workloads to Linux-x86.

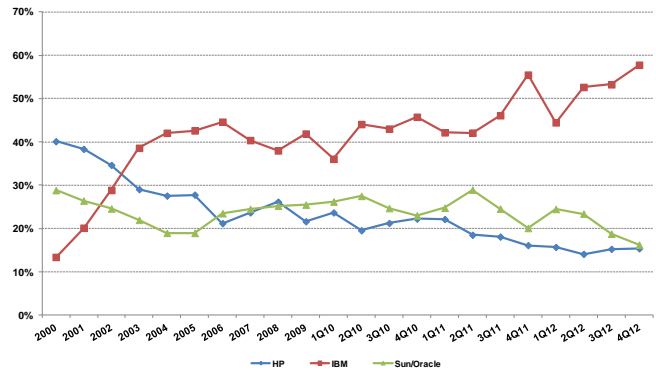


Figure 4: High-end server vendor share



Source: IDC

Figure 5: Mid-range server vendor share



Source: IDC

Valuation and risks

We value the hardware sector based on a combination of historical relative earnings multiples, price to cash flow and discounted cash flow. We select what we deem to be an appropriate multiple on our forward earnings estimates based on our assessment of relative growth rates, profitability, competitive position and macroeconomic outlook. General risks include general economic weakness affecting consumer electronics/IT demand, unexpected changes in component pricing, and accelerated price competition in PCs/other hardware.



News

Company news

- Dell announced it has received two alternative acquisition proposals during the “go-shop” period provided for in the merger agreement between the company and entities owned by Michael Dell and Silver Lake Partners. According to the company, the two proposals have been submitted by entities associated with Carl Icahn and a private equity fund managed by Blackstone, with the terms of both proposals appearing to be superior to the original buyout proposal.
- The Wall Street Journal reported Apple has acquired ‘WifiSLAM’, a privately-held indoor-GPS company for ~\$20M.
- Separately, the Wall Street Journal reported T-Mobile will start selling the iPhone in the US starting April 12, 2013. Pricing for the iPhone 5 is expected to be ~\$580, with an initial down payment of \$100, followed by monthly payments of \$20 over two years.
- Reuters reported a district court in Connecticut has dismissed a securities fraud lawsuit filed against Pitney Bowes, which alleged that certain executives of the company were aware of adverse factors that were impacting Pitney's financial results. According to the court, Pitney had included appropriate cautionary language in its regulatory statements and on conference calls that warned investors about the risks related to its business environment.

PC and Consumer Electronics

- According to Bloomberg Finance LP, Intel is making progress in negotiations with Time Warner, NBC Universal and Viacom to obtain media content for the company’s planned online pay-TV service.
- According to IDC, in 2012, worldwide smart connected device (PCs, smartphones and tablets) shipments increased 29% Y/Y to ~1.2B units, driven primarily by growth in tablets (up 78% Y/Y) and smartphones (up 46% Y/Y), offset by declines in desktop and portable PCs (down 4% and 3% Y/Y, respectively). Samsung leads the market with 21.2% units share, followed by Apple with 20.3% share.
- BlackBerry reported F4Q13 revenue of \$2.7B (down 36% Y/Y) and adjusted EPS of \$0.22 (vs. the Street at \$2.8B/ loss of \$0.30). In addition, BBRY shipped ~6M smartphones, including ~1M BlackBerry 10 smartphones during the quarter.

Servers

- Oracle refreshed its midrange and high-end SPARC server lines with the new SPARC T5 and M5 servers. The new SPARC T5 features a 16-core 3.6 GHz SPARC T5 processor with 128 threads per system, while the new M5 servers feature up to 32 six-core 3.6 GHz SPARC M5 processors with up to 1,536 threads per system.

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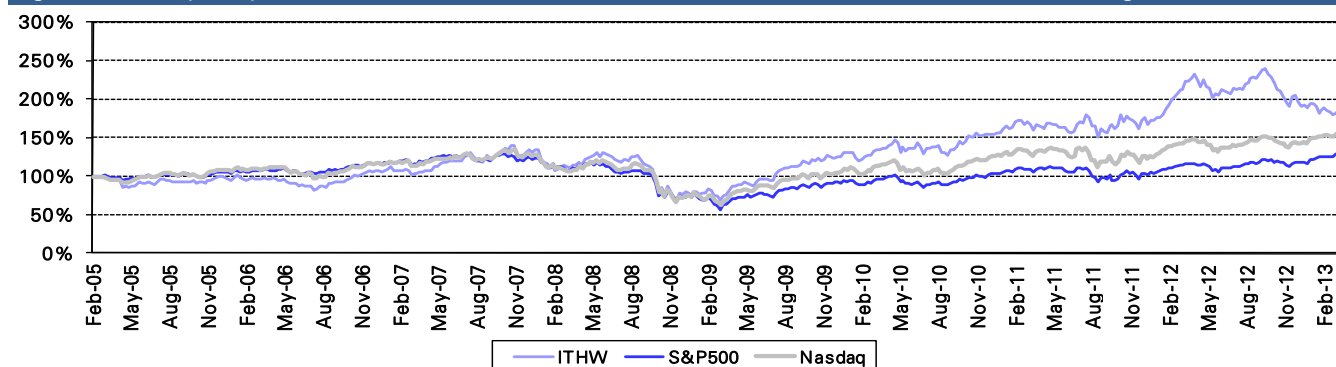
Forecasts and charts

Figure 6: PC and tablet Forecast

	2008	2009	2010	2011	2012E	2013E	2014E
UNIT SHIPMENTS							
Desktops	150,495,629	149,207,360	156,959,066	154,801,499	147,903,606	141,368,183	134,632,800
Portables	130,803,391	134,513,129	165,281,878	180,705,735	188,176,059	191,829,641	192,802,364
Netbooks	11,549,001	34,403,721	35,655,958	28,379,864	16,210,447	-	-
Notebooks	142,352,392	168,916,850	200,937,836	209,085,599	204,386,506	191,829,641	192,802,364
Servers	7,752,530	6,562,451	7,727,854	8,015,403	7,989,484	8,339,801	8,706,872
Units before Tablet	300,600,551	324,686,661	365,624,756	371,902,501	360,279,596	341,537,625	336,142,037
Tablets			19,303,776	71,996,371	120,183,845	174,910,304	221,241,421
Units with Tablets	300,600,551	324,686,661	384,928,532	443,898,872	480,463,441	516,447,929	557,383,457
ASPs							
Desktops	736	500	552	564	547	535	520
Portables	1,032	895	819	783	737	698	668
Netbooks	426	417	368	344	335	-	-
Servers	3,908	4,030	4,490	4,651	4,675	4,743	4,708
Total	935	726	738	742	670	643	613
Tablets			619	543	494	474	460
Unit Growth Y/Y %							
Desktops	-2%	-1%	5%	-1%	-4%	-4%	-5%
Portables	21%	3%	23%	9%	4%	2%	1%
Tablets				273%	67%	46%	26%
Servers	3%	-15%	18%	4%	0%	4%	4%
Total PC	12%	8%	13%	2%	-3%	-5%	-2%
Total w/ Tablets	12%	8%	19%	15%	8%	7%	8%
Revenue Y/Y %							
Desktops	-1%	-33%	16%	1%	-7%	-6%	-8%
Portables	13%	-11%	12%	5%	-2%	-3%	-4%
Tablets				227%	52%	40%	23%
Servers	-2%	-13%	31%	7%	0%	6%	4%
Total PC	7%	-16%	14%	2%	-5%	-5%	-4%
Total w/ Tablets				12%	2%	3%	3%
ASP Y/Y %							
Desktops	1%	-32%	10%	2%	-3%	-2%	-3%
Portables	-7%	-13%	-9%	-4%	-6%	-5%	-4%
Netbooks	3%	-2%	-12%	-7%	-3%	-100%	NMF
Tablets				-12%	-9%	-4%	-3%
Servers	-4%	3%	11%	4%	1%	1%	-1%
Total w/ Tablets	-4%	-22%	2%	1%	-10%	-4%	-5%

Source: Deutsche Bank forecasts, IDC

Figure 7: Stock price performance of indices versus IT Hardware (Feb. 4, 2005 as base), market weighted



Source: Deutsche Bank, FactSet



Appendix 1

Important Disclosures

Additional information available upon request

Disclosure checklist

Company	Ticker	Recent price*	Disclosure
IBM	IBM.N	213.30 (USD) 28 Mar 13	1,7,8,14,15,17

*Prices are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank and subject companies

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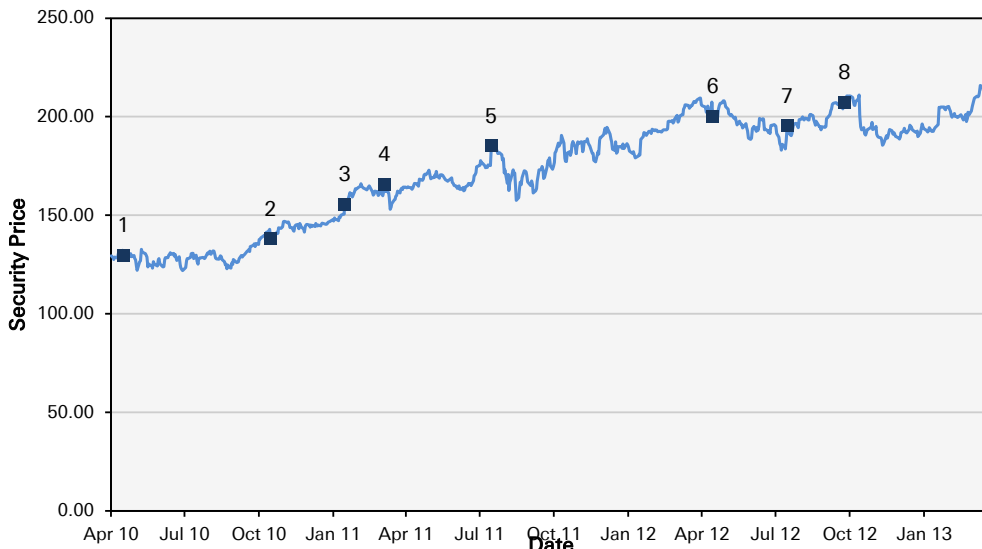
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Historical recommendations and target price: IBM (IBM.N)

(as of 3/28/2013)



Previous Recommendations

- Strong Buy
- Buy
- Market Perform
- Underperform
- Not Rated
- Suspended Rating

Current Recommendations

- Buy
- Hold
- Sell
- Not Rated
- Suspended Rating

*New Recommendation Structure as of September 9, 2002

1.	04/20/2010:	Buy, Target Price Change USD150.00	5.	07/19/2011:	Buy, Target Price Change USD210.00
2.	10/19/2010:	Buy, Target Price Change USD155.00	6.	04/18/2012:	Buy, Target Price Change USD220.00
3.	01/19/2011:	Buy, Target Price Change USD175.00	7.	07/19/2012:	Buy, Target Price Change USD225.00
4.	03/09/2011:	Buy, Target Price Change USD200.00	8.	09/28/2012:	Buy, Target Price Change USD240.00

Equity rating key

Buy: Based on a current 12- month view of total shareholder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield) , we recommend that investors buy the stock.

Sell: Based on a current 12-month view of total shareholder return, we recommend that investors sell the stock

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1. Newly issued research recommendations and target prices always supersede previously published research.

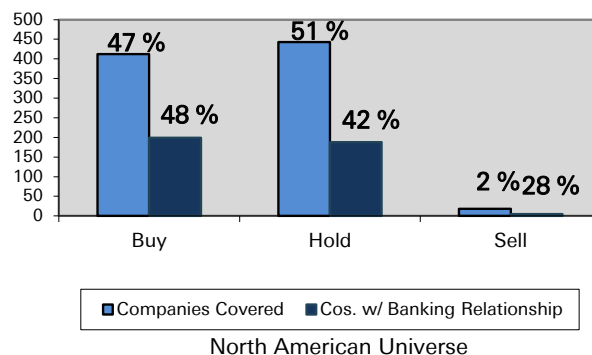
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Deutsche Bank AG

Deutsche Bank Place
Level 16
Corner of Hunter & Phillip Streets
Sydney, NSW 2000
Australia
Tel: (61) 2 8258 1234

Deutsche Bank AG

Große Gallusstraße 10-14
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