



XYZ,

Thanks for the opportunity for Strategic Advisory Services to review the question about DL 380 refresh issues. I recently had to review two other clients' portfolio of 380s and 580s with a similar question in mind.

Here are the factors involved in decisions about 380 acquisitions at this point in time (Jan2012)

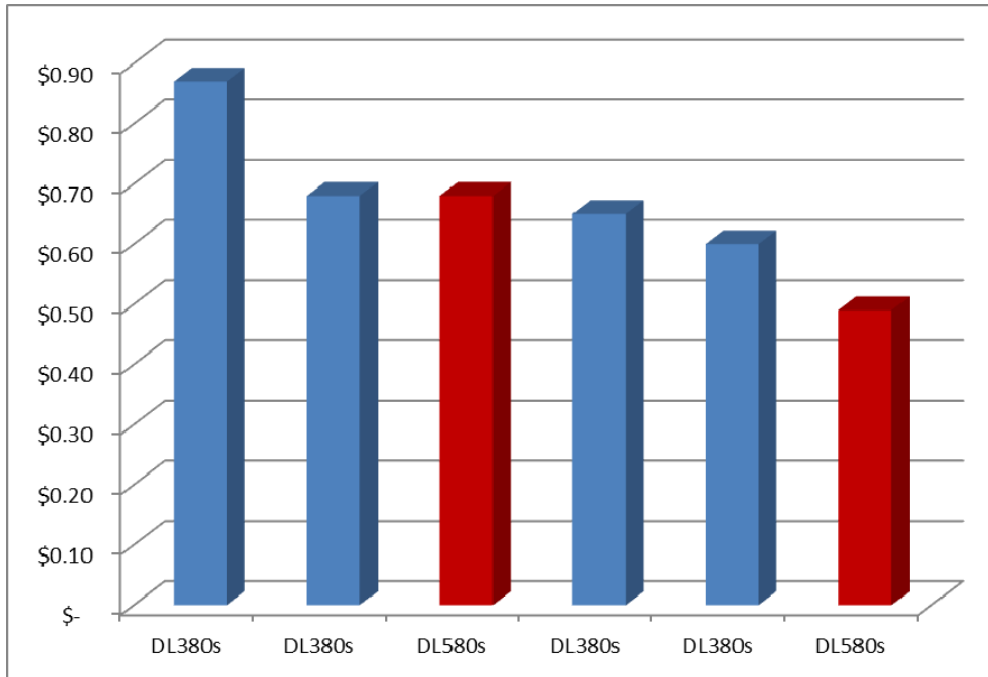
- The 380's and the 580's are about to be refreshed with the newest Sandy Bridge EP processors (2012H1). The new server units will provide something in the 20%-35% improvement in performance per dollar. Any 380s acquired today (with the previous generation processors) should be kept in service for 24 months—and 36 months at a maximum. This is so the newer Sandy Bridge EP units can be rotated in quickly, offering greater capacity/dollar and reduced server footprint (if desired)
- Each new generation of Intel processors has allowed server hardware footprint reduction (including software licenses), if desired. Based on TPC-C benchmarks, 590 of the current generation (the 5600's), for example, could accomplish the same workload as 1000 of the previous generation:

	Units	5600 Equivalent	#5600s Needed
X5100	1,000	0.12	123
X5300	1,000	0.16	158
X5400	1,000	0.30	301
X5500	1,000	0.59	590

This argues for deploying current generation technology for a shorter window (24-36), to allow these benefits to materialize in the 2012-13 timeframe of Sandy Bridge.

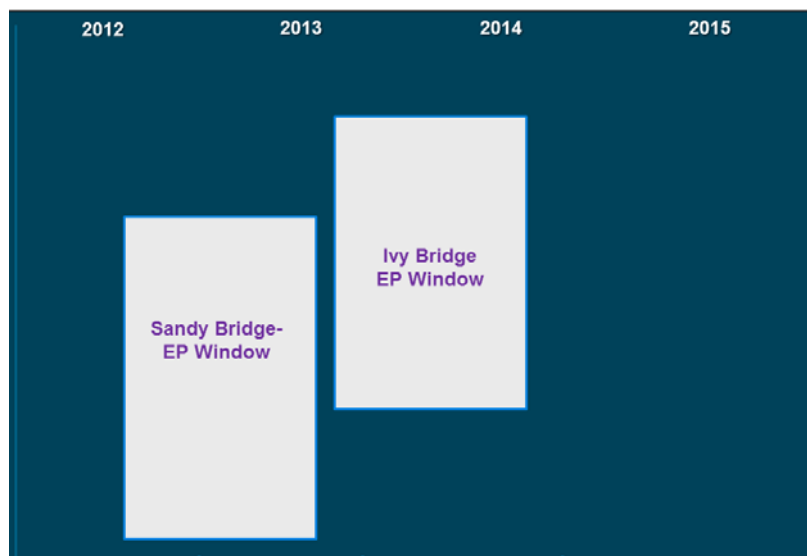
- One of the key elements in timing in this case has to do with the timing of the Ivy Bridge generation of Intel processors for servers, expected in mid-2013. Sandy Bridge is not expected to have a couple of the key technologies we will need for the future, including USB 3.0, SSD-direct-connect, and especially PCI 3.0. These will not be present on standard issue Sandy Bridge servers. This argues that whatever we put in play in 2012 (even the newer Sandy Bridge units, but especially the current Westmere processors) be flexible enough to cost-effectively replace within the 2014-2015 timeframe.

- Additionally, when the higher-end current-processor 380s were introduced, some clients opted for the newer 580's because the price points had begun to overlap. In the G7 family, this was fairly obvious (from TPC data):



This also suggests that current-generation 380s acquired today be held for only a short time, but in this case to allow for the possibility of replacement by a 580 in the 2013/2014 timeframe.

- Intel has actually created a refresh timing challenge for their customers, by placing Sandy Bridge and Ivy Bridge generations so close together. Just a visual mapping of the generations shows that customers who need to refresh in the 2012 window will be 'tempted' to upgrade to Ivy Bridge within 12-18 months.



In many cases this fast of a refresh makes perfect sense—because the dollar cost for the performance gains are almost trivial—but this could tax infrastructures that do not have high degrees of workload and provisioning automation. Nonetheless, we will see many of our clients adopt shorter lease terms for servers (both current generation Westmere EPs and ‘impending generation’ Sandy Bridge EPs)—to allow them the financial flexibility to exploit the major advances in Ivy Bridge in 2014ish.

Some of the above points might not be relevant to your client—they are based on the work done for other accounts and general server trends in large enterprises—but your client should at least make sure that any current generation investments do not create future financial difficulties in exploiting these next two generations of server technology. The current technology is still outstanding and an excellent investment, of course, but one that still should be only held in the shorter 2-3 year window, for the above reasons.

Thanks again for the opportunity to help you help them, and I look forward to working further with you, in applying Macquarie’s value to their successful use of technology finance for business success.

Glenn M. Miller (Jan 2012)
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