



Times-R-Us (TRU) is a growing brick and mortar retailer with just over 200 US stores specializing in seasonal items. TRU stocks its stores from January to mid-February with Valentines gifts; from March to May with Easter and Mother's Day gifts, from June into the summer with Fathers Day gifts and backyard leisure items; in August with back to school items; in October with Halloween costumes; and from November to December with Christmas gifts. By turning over inventory, its small retail stores are always in busy season—with very brief discount sales following each season. TRU currently does not have a significant online sales presence, although it uses the web for customer support.

TRU's corporate offices are in Hoffman Estates, IL. It has nine regional offices and distribution centers in: Syracuse NY, Greensboro NC, Pensacola FL, Grove City, OH, Bennett, CO, Denton, TX, Portland OR, San Luis Obispo CA, and Hoffman Estates. The company grossed \$475 million in sales last year and netted a \$40 million dollar profit. It is growing at a rate of about five percent a year and opening about 10 new stores each year.

Payne Indaneck, the CIO, works from the corporate office. Each regional IT staff is run by a Technical Director. So there are eight IT centers with the Hoffman Estates operation doing corporate support as well as regional operations. Anita Lotta-Help is the Technical Director in Hoffman Estates. You work for Anita.

The IT centers are connected by using AT&T as the service provider (currently leased line T1 from Corporate into the Regionals and SDSL from Regionals into the stores. HQ also has an Internet connection and a separate connection for their web server (also with AT&T, both T1 speeds). AT&T also provides the voice links. The Regionals and stores do not have Internet connectivity except through HQ. TRU also uses RackSpace for offline archival storage. Each of the 200 stores is able to tie into the RackSpace service (through HQ) for reporting. The stores are running a POS (point of sale) system, storing daily sales data at a local server (rather than at each register). Each night the sales data is transferred to the region, which aggregates the data and sends it to HQ. Hoffman Estates is running an open source ERP system called OpenBravo, which may or may not scale as the company grows. Right now OpenBravo is housed primarily

in Hoffman Estates and inventory data is distributed out to the data centers and retail stores and sales data is uploaded to HQ once per day via the leased lines. TRU makes use of a third party credit card processor and so no customer data is collected or stored on TRU servers (this traffic goes through HQ to an internet based location via VPN-type appliance at each store). We can get customer data from the processor (for recalls and marketing if necessary).

In addition, TRU manages its internal email using an MS-Exchange product hosted in Hoffman Estates, and has rolled out MS-Office w/MS-SharePoint as its officing solution and collaboration support. MS-Exchange and the TRU website are hosted on four load-balanced in-house servers in the corporate data center (so all email traffic traverses the WAN to/from HQ and the internet). OpenBravo runs on two 8 core application servers with mirrored onsite backup. There are fifteen IT staff people in the corporate office (development, OpenBravo maintenance, computer operations, and staff tech support) and an average of five in each regional office (the number due largely to travel demands among regional staff to visit retail stores for repair, maintenance, and upgrade of hardware, and software.) Total staff at Hoffman Estates is about 175 (including IT).

HQ is a 6 story building of which TRU currently occupies the top 4 floors (about 50 people per floor, with total space per floor of about 7500 sqft [100x 75] and a small data center on the first floor). We own the building so there is room to expand if necessary. The current horizontal cabling (10mbps, star wired using hubs) was in place when we bought the building several years ago. The networking equipment in the TCs is 6 years old (end of life). Current backbone cabling is 100 mbps capable and uses L3 switches at the core. Most people work in “open office” cubicles but there are offices or conference rooms in the four corners of the building. All desktops, laptops, and printers are less than 3 years old (and are generally on a 3-5 year replacement cycle). Sixty percent of HQ staff use only laptops. The data center network on the first floor is undergoing an upgrade to a modern configuration (consider the data center core, distribution and access layers to be current).

You have just finished your degree at DePaul University and have been hired onto Lotta-Help’s staff as an executive assistant to analyze, evaluate, and execute plans for developing a cloud-based IT in a way that will support growth of the company toward doubling its current size over the next ten years.

What follows are a series of memos from the Technical Director to you. She likes to receive back two page memos that clearly and concisely lay out issues for her. Anita doesn’t like being told basics she already knows (assume she took IS 324); and doesn’t like to read a lot of extra fluff. But she does want meaty information. She encourages (read that requires) the staff to provide background sources and citations (more than two) so she knows where to turn to dig deeper. Oh, and one of Anita’s mottos is: “I can read Wikipedia myself! Tell me something I

don't know." (in other words DON'T use Wikipedia as one of your cited sources) Also, she is looking for YOUR thoughts so lots of quotations won't cut it (keep it to less than 15% of your memo if possible).

When she issues a research memo, she expects a clean, clear, and complete response within the given time frame (check the schedule), by end of business day (5:00pm) but you should be ready to discuss the material the in our "regular meeting" [in class].