

How to Move a .COM in Two Months (and Survive the Experience)

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The Setup

- ◆ *[Jan, 2000]* Hal takes contract as interim IT Manager at Autodaq in San Mateo
- ◆ *[start + 1.5 weeks]* Hal learns sub-lease is up 3/31/2000 and cannot be renewed
- ◆ *[start + 1.5 weeks + 5 minutes]* Hal asks CEO if new address has been found

Talk Outline

- ◆ Before You Do Anything Else...
- ◆ Philosophy and Money
- ◆ The Blow-By-Blow
- ◆ Wrap Up

Before You Do Anything Else

Top Priority: Circuit Orders

- ◆ Circuit installs are always the longest lead items in any move plan
- ◆ Circuit installs are essentially out of your control and therefore highest risk items
- ◆ You'll need at least one (typically Internet) data connection and some phone lines
- ◆ Don't forget some POTS lines!
- ◆ Place orders as *new installs* rather than *change orders!!!*

What Happens to Your Order

- ◆ CLEC Sales Rep hands order off to Order Entry department
- ◆ Order Entry converts paper form into electronic order for Provisioning
- ◆ Provisioning takes electronic order and generates ILEC/CLEC work tickets
- ◆ After 48 hours, ILEC comes back with commit date 3-4 weeks out

What Happens... (part #2)

- ◆ ILEC (eventually) installs local loop
- ◆ ILEC (eventually) cross-connects circuit properly in the central office
- ◆ CLEC performs end-to-end test, repeat until all bugs are fixed
- ◆ You get to test with your equipment, repeat until all bugs are fixed
- ◆ Congratulations!

Second Priority: Order Phones

- ◆ Want a PBX? Prepare to wait three months
- ◆ Key systems are cheaper and faster to get
- ◆ Expect to pay \$1200/user for PBX, \$800/user for key systems w/o ACD
- ◆ Biggest discounts before install, so front-load those orders!
- ◆ Be aware that reseller expects front-loaded payment schedule

Pick the Move Team

- ◆ You need at least: one facilities person, one finance person, and one IT person
- ◆ You'll be interfacing with: real-estate broker, architect, construction, HVAC, cabling, electric, telco, phone vendor, ...
- ◆ You need to meet weekly, produce complete notes and action items for every meeting
- ◆ Moving is a full-time job for everybody

Finally, Pick Your Move Date

- ◆ Can't move in without phones or a network, so those items set your date
- ◆ Don't leave the move until the last possible moment either!
- ◆ Make sure nobody's vacation schedule interferes with move-in date

Philosophy and Money

Moving: The Good News

- ◆ For IT folks, moves present a chance to "fix" infrastructure problems
- ◆ Tremendous learning experience
- ◆ Great team-building scenario, providing a huge sense of accomplishment
- ◆ Opportunity to spend lots of money

Moving: The Bad News

- ◆ Opportunity to spend lots of money
- ◆ Nothing ever goes as planned, everything takes longer than it should and costs more
- ◆ No margin for error, stress levels high

Survival Philosophies #1: Blame

- ◆ It's your fault, even when it isn't
- ◆ If it's not your fault, it's nobody's fault
- ◆ "We're all on the same team"

Blame is incredibly counter-productive

Survival Philosophies #2: On the Job

- ◆ "Trades" are like Sys Admins:
 - Nobody gives them credit or recognition
 - They know more about what's going on than anybody else
- ◆ Treat them well– you get better workmanship and they'll save your butt
- ◆ Food always helps

BTI #1: The Phone System

- ◆ \$750/user times 130 users is \$100,000
- ◆ All that money and you still have to buy your own damn music on hold system...
- ◆ Usual deal is 50% up front, 35% on delivery, 15% on turn-up

BTI #2: Wiring Plant

- ◆ 4-plex Cat5 drops cost \$200/station
- ◆ We did one drop per cube and two for each office and conference room
- ◆ Don't forget extra capacity near printers and copiers and for the front desk
- ◆ Don't forget cross-connects from the MPOE
- ◆ You'll also need racking and termination in your IT room and/or IDF

BTI #3: Backup Power

- ◆ How much battery time do you need?
- ◆ Going with a fuel cell or diesel generator?
- ◆ Labor can be 50% of capital cost (or more)
- ◆ "What percentage of your Data Center will be on UPS?"
- ◆ Don't forget this stuff takes up lots of room!
- ◆ Put an *analog* phone next to the dead-man switch!

BTI #4: Security and Fire Control

- ◆ Need to replace wet systems in Data Center with appropriate fire control
- ◆ Put a phone next to the dead-man switch!
- ◆ Electronic locks (expensive) for external doors, electric strikes for interior
- ◆ You'll need to provide a Windows PC for badge programming, et al

Blow-by-Blow

Week of Jan 10

- ◆ First tour of the building
- ◆ Carve out the Data Center (12' x 30')
- ◆ Delegate data comm orders
- ◆ Quick immersion in telephony for Hal

Week of Jan 17

- ◆ Telco/data orders in (delivery late Feb)
- ◆ Set move-in date for 3/3
- ◆ Meet with CableTech
- ◆ First construction meeting– building permit process longer than two months
- ◆ Establish HVAC loads for Data Center and office space

Week of Jan 24

- ◆ No permit, problems for Data Center:
 - No raised floor in Data Center
 - Can't remove sprinklers either
- ◆ Get more bids, order phone system
- ◆ Floor plans to CableTech, specs for copy areas, etc
- ◆ Construction error in Data Center
- ◆ Hal flies to Saudi Arabia for teaching

Week of Jan 31

- ◆ Hal's in Saudi
- ◆ Getting bids on security system
- ◆ Cubicle planning underway

Week of Feb 7

- ◆ First cube plan published (8x8 cubes)
- ◆ Main stairway needs substantial redesign to meet fire codes
- ◆ Need to buy a refrigerator for kitchen
- ◆ Order UPS for Data Center
- ◆ Place disconnect order on Centrex service at old premises

Week of Feb 7 – Initial Entropy

- ◆ Not enough A/C?
- ◆ Problems getting data to all cubes:
 - Vertical cable runs to "floating" cubes
 - Right angle turns for 40 cable bundles
- ◆ Network Admin quits, realize that data comm orders were screwed up

Week of Feb 14

- ◆ We need more seats– second cube plan published (8x6 cubes)
- ◆ Marketing gets involved in lobby design
- ◆ Sign off on security system vendor
- ◆ Sign contract with moving company
- ◆ Phone system design meeting
- ◆ Move date pushed back to 3/17

Week of Feb 14 – More Entropy

- ◆ How big is that UPS?!?
 - UPS unit itself is reasonably small
 - Battery bays consume 8 linear feet
 - Don't forget transformer and junction
- ◆ Centrex disconnected

Week of Feb 21 (Move – 4 wks)

- ◆ Third cube plan published (slanted cube clusters)– need exact dimensions!
- ◆ Eyeball-to-eyeball meeting with furniture, wiring, electrical contractors
- ◆ Still messing around with lobby design
- ◆ How long can it take to get a 'fridge?
- ◆ Need more capacity in phone system

Week of Feb 21 – It Gets Worse

- ◆ MCI Circuit disconnected because old "change order" not deleted
- ◆ Uh, where are my PRIs?
- ◆ For that matter, where is my Internet?

Week of Feb 28 (Move – 3 wks)

- ◆ Cube plan finalized!
- ◆ Still designing lobby– they want granite
- ◆ It's the simple things that end up eating up your time– music on hold
- ◆ What are the new phone numbers?

Week of Feb 28 – Problems #1

- ◆ Need to relocate electrical boxes
- ◆ Miscommunication on Data Center electrical– what's a rack anyway?
- ◆ Still can't reach Pac Bell

Week of Feb 28 – Problems #2

- ◆ MCI circuit disconnected twice:
 - MCI re-uses our pair since it's "free"
 - Pac Bell disconnect at CO due to old ticket

- ◆ And on the ICG front:
 - Order "lost" due to re-org
 - New commit date of 3/3
 - Pac Bell aborts install due to bad address

Week of Mar 6 (Move – 2 wks)

- ◆ Create "punch-list"
- ◆ Building inspector visit
- ◆ Order Cat5 patch cables
- ◆ Equipment installs begin
- ◆ Hal needs a key!

A Digression on Patch Cables

- ◆ Rule #1: You always need a foot more than you expect on either end
- ◆ Corollary to Rule #1: Patch cables which are 2' or less are *useless*
- ◆ Result: Would anybody like to buy a bunch of 2' cables in various colors?

Week of Mar 6 – Problems

- ◆ Hal finally looks up– must move some piping and conduit in Data Center
- ◆ Delivery times on patch cables
- ◆ Security system:
 - Larry, Moe, and Curley wire the doors
 - What happened to the locksmith?

Week of Mar 6 – The Saga Continues

- ◆ On the ICG Front:
 - 3/10 delivery date from Pac Bell
 - ICG won't dispatch until circuit delivered
 - Rush hour traffic prevents full testing
 - Initial testing not looking good...

- ◆ Frame install finally rolling in Pac Bell—
what are my IP addresses, please?

Week of Mar 13 (Move Week)

- ◆ Final HVAC testing
- ◆ Janitors start cleaning
- ◆ Security system straightened out
- ◆ Phone system install
- ◆ Hal moves in to local hotel

Week of Mar 13 – Telecomm Hell

- ◆ MCI Circuit up but can't bring down current connection to test
- ◆ Frame relay comes in Thursday night
- ◆ ICG vs. Pac Bell:
 - More testing ("Irvine we have a problem")
 - "Hey the problem's in the CO!"
 - Are we going to have phones?

The Move

- ◆ Place your troops!
- ◆ The dangers of fixed-price bids
- ◆ Can't have too many maps
- ◆ How many ethernet ports do we need?
- ◆ Everything always takes longer

*"It doesn't take that much longer
to do it right!"*

ICG: The End of the Story

- ◆ When the amber lights on the phone system go out, the PRIs are up
- ◆ Amber lights go out Saturday afternoon
- ◆ But wait! There's more:
 - Long distance service not programmed
 - Translation problems on local numbers
 - Incompatible PRI orders
- ◆ Service fully working Sunday night!

Post Move

- ◆ Recording the "voice of Autodaq"
- ◆ Need card access on upstairs door!
- ◆ Need third row of racks
- ◆ Need more ethernet switches
- ◆ Hal flies to Orlando for SANS 2000
- ◆ Disconnect service and retrieve equipment from old building

Wrap-Up

Class Acts and Thanks

- ◆ **Autodaq** – Suzanne Taafe, Peter Kelly, Graham Breeze
- ◆ **Matsart Consulting** – David Howard
- ◆ **Onebox** – Barry Boulier
- ◆ **ICG** – Ken Bowen, Tangee Oswald
- ◆ **MCI** – Art Gerrans
- ◆ **Pac Bell** – Aaron Coles
- ◆ **Teledynamic** – Tony Scalzo, Gail Aknin

Class Acts and Thanks (cont.)

- ◆ **Blach Construction** – Robert "Skelly" Skellenger, Bob Zimmerman
- ◆ **DES Architects** – Elke MacGregor
- ◆ **CableTech** – Bob Cornely, Patrick Sumner
- ◆ **Security Link** – Dlo Spear
- ◆ **T.L. Electric** – Mike ???

Cool "Finds"

- ◆ *Black* Chatsworth racks!
- ◆ Digi Etherlites (32 port model)
- ◆ GNAC console server software
`ftp://ftp.gnac.com/pub/conserver/`
- ◆ Raritan KVM switches

In Summation

- ◆ Flexibility and a sense of humor are key survival traits
- ◆ "Every human encounter is an opportunity to be kind"
- ◆ *We made it! We made it! We made it!*