

Managing the Impact of Data Center Migration

When profits depend on nanoseconds, traders depend on their data connections. When data centers move, there is no margin for error.

In May 2022, Euronext moves lock, stock and barrel from Basildon to Bergamo. Just a few months after this, the London Stock Exchange Group will transplant its data center from its current London location to a new site nearby, a shorter journey but no less critical in its impact on exchange infrastructure. Deadlines are looming – but how can the costly headache of a forced data center migration be turned into a long term opportunity?

To understand how data migration affects your business and what you can do to make sure it goes smoothly, read our practical checklist.

Pause, Reflect, and Change

When our environment changes, we see new potential that may have been clouded by the familiar. Over time, proprietary server stacks have been adapted by increments to stay abreast of company growth. The financial markets have evolved. Gone are the days of bilateral agreements for Financial Information eXchange notes. Complex algorithms that rely on consistent, fast data feeds are now supporting traders in a fast paced global market.

Companies historically managed their in-house exchange access using switch handoffs and global connectivity through a network of nodes. Now, most have turned to co-location with the exchanges, gaining access to the most timely data and low latency trading connections. Within data centers,

server infrastructure still needs hands-on management to stay up to date with connection speeds, security standards, and the latest regulatory requirements. It's like painting the Forth Bridge: as soon as you've finished updating, it's time to start again.

Data center migration gives everyone time to pause and reflect. Do you need to wield the paintbrush yourself? Traders don't need to understand the ins and outs of infrastructure maintenance to do their jobs, they simply need the best support to stay competitive and profitable. Who should carry the burden of managing the underlying tech in such a high-performance, always-on business environment? Like successful trading, it's a job for the experts.



Levelling the Playing Field

Flexible managed services are proving their worth for users of all sizes. These range from individual traders and small hedge funds who need just a single server, right up to Tier 1 banks running whole rows of contiguous server stacks. Clients who have taken advantage of TNS' flexible 'Infrastructure as a Service' in Basildon have a smoother transition ahead, including access to TNS' best in class in-data center Layer 1 connectivity. This technology provides users with the lowest possible latency connections to the matching engine and data feeds, saving crucial nanoseconds in the race to execute trades.

There are practical challenges that are addressed by managed services too, such as server-level security. Every piece of equipment in a data center naturally

benefits from the host location's multi-layered security. The building is kept safe from accidental and malicious damage. Access to the center and to areas within it is heavily restricted. Network infrastructure and firewalls are constantly updated to defend against malware, spyware, data theft and failure. However, responsibility for individual server security falls to the manager. Are you able to sustain the pace of change?

This is a pivotal moment for traders in businesses of all sizes. If your servers are already managed by TNS, the complex process of migration is already underway. If not, these are some of the questions you should be asking in order to decide the best course of action.



Checklist: Making the Move to Bergamo

There are operational, financial, trading and strategic priorities to consider in the face of this impending move.

Operational Priorities



- 1 Backup your data.** Yes, we know you do this regularly, but a server move needs a belt and braces approach. This is not only another layer of redundancy but also gives you the opportunity to check these backups and identify any settings to be adjusted or drives to be replaced.
- 2 Audit your existing equipment thoroughly.**
 - i.** What are the most critical machines? These will need to be mirrored in the interim and moved as a priority.
 - ii.** Are there any servers nearing the end of their life? Is it worth moving these, or do they need to be replaced ahead of schedule?
 - iii.** Is your current equipment compatible with the latest switch technology? What additional investment may be needed to stay abreast of Layer 1 latency?
- 3 Prepare your interim facility.** To allow for the lengthy testing processes in the new data center and the slow decommissioning of the old, data feeds and trading operations need to run in parallel to ensure that there is no interruption to your services.
- 4 Scout the new location.** Where exactly are your servers going? Does the space they are going to have the same size, shape and access as the space they are leaving? Do racks need new configurations?
- 5 Label everything for transit.** Everything down to the last cable needs to be tagged within every labelled packing crate so that the servers can be properly installed in their new home.
- 6 Decide on timing.** The schedule needs to minimize downtime and ensure that technicians are ready on site to get everything back up and running quickly. Don't forget that servers run hot – they need to cool before they're packed – and that these moves have absolute deadlines that you must meet.

Trading Support



- 1 Meet trader needs.** Have you provided your traders with the best order routing and data capabilities?
- 2 Maintain market data feeds.** Can you guarantee access to the same combination of exchange data feeds, so that your trading algorithms continue to make the right decisions?
- 3 A competitive edge.** Can you maintain or improve your competitive position with the lowest possible latency access to the matching engine?

Checklist: Making the Move to Bergamo

Financial Considerations



1 Finalize the move budget.

- i. Is this in line with what the company had expected to spend?
- ii. Are there any additional costs for equipment and technician overtime that need to be incorporated, on top of the removal service and transit insurance?
- iii. Has the cost of parallel running been taken into account?

2 Review capital investment decisions.

Where equipment is to be retired prematurely due to the move, what implications does this have on fixed asset investment? Can lost operational life be recouped in disposal proceeds or in greater efficiencies achieved with new equipment?

3 Assess opportunity costs. Moving your own servers is an expensive and complex process. How does the move budget compare with migrating data to Infrastructure as a Service?

Strategic Considerations



1 The CFO view. What difference would a managed service make to profitability, flexibility, the balance sheet, and the perception of the business in the market? There are financial advantages to moving data center costs from capital expenditure (CapEx) to operating costs (OpEx). Many old CapEx-heavy IT services have already made the move, whether for licensed software that is now automatically updated by subscription, or infrastructure that has already moved to the cloud.

- i. **Profitability.** The cost of CapEx on the annual accounts is based on a rule of thumb allocation of the original investment cost over the expected life of the equipment. Managed services are charged as they are used, giving a more realistic cost of operations.

ii. Balance sheet strength. Although investment in fixed assets traditionally improves the company's balance sheet, what is the underlying asset condition? Technology is evolving at such a rapid pace that the risk of early obsolescence and write-offs is very real.

iii. Flexibility. An elastic service that can expand with the business allows greater cost control as the company grows.

2 The CTO view. Resourcing and flexibility are the watchwords.

- i. Would technical staff play a far more valuable role if they didn't have day to day responsibility for server infrastructure?
- ii. Does the flexibility of a managed service provide greater security as data volumes grow?

This is not an exhaustive list and every business is different, but it highlights key areas for decision making at this crucial time. The Euronext and LSE migrations represent an opportunity to step back and assess your future infrastructure strategies. If you have any questions, please contact us.

Checklist: Making the Move to Bergamo

Operational Priorities

- Backup data
- Audit existing equipment thoroughly
 - Establish most critical machines
 - Determine servers nearing end of life
 - Ascertain what equipment is still compatible with latest technology
 - Confirm whether investment is required to address Layer 1 latency
- Prepare interim facility
- Scout the new location
 - Establish location of servers
 - Confirm size, space, and access of new location is suitable
 - Address any new rack configurations
- Label everything for transit
- Decide on migration timing

Financial Considerations

- Finalize the move budget
 - Confirm budget alignment with company expectations
 - Establish whether any additional costs will be incurred
 - Consider cost of parallel running
- Review any capital investment decisions
- Assess opportunity costs of self-management vs. managed service

Strategic Considerations

- Establish key views of the CFO
- Establish key views of the CTO

Trading Support

- Provide best order routing and data capabilities for traders
- Confirm continued access to necessary market data feeds
- Ascertain whether competitive position can be maintained or improved

To learn more about TNS Financial Markets solutions contact a sales executive.

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