Consolidation is not a dirty word (when it comes to Data Centres)

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Steve Turner, VP of IT Optimisation at Intergence (http://www.intergence.com), believes that Data Centre consolidation can provide major benefits for businesses looking to streamline operations, cut costs and improve performance.

Steve comments:

"In the past, expanding your business's IT capacity was just a question of building a bigger Data Centre, but in today's economic climate, that's no longer an option. Consolidation of smaller Data Centres and relocating services under a single, bigger roof may provide significant benefits. Many large enterprises find themselves with several heterogeneous IT systems, either through acquisition or simply through ongoing upgrades, and they need to make sure that everything works together seamlessly.

"Data Centre consolidation is a major undertaking that can take up to two years to complete and initially can be expensive, but the long term benefits can be impressive: cost reductions (utilities, infrastructure, services and operations), improving service levels and being more capable of meeting new business challenges through greater flexibility. In an ideal situation, applications are available 24/7, operational costs have been cut, human resources are optimised and management of the whole operation is simplified. However, the worst case scenario is that performance falls, often due to increased application latency or infrastructure which has not been sized to meet the business demands.

"Ultimately, what you should be aiming for is something that adds value to the business rather than cutting costs for the sake of it.

These are the top five reasons for consolidating your data centres:

1. Management of employees: Each individual data centre needs to employ system administrators, engineers and other operational specialists, as well as managers to oversee the whole operation. Consolidation will reduce these numbers and optimise staffing requirements.

2. ISPs: Because servers in different Data Centres need to communicate to each other and for resiliency purposes, several ISPs are often involved. However, some ISPs may be more reliable than others depending on location. Hence, if one of your Data Centres is located in a region whose ISPs cannot offer Service Level Agreements which are high enough to meet business needs it would be prudent to consolidate this site into a location with more reliable links.

3. Latency: Having an application server in one location and a back end database server in another could add latency of 10 – 15 milliseconds (or 10 to 15 thousandths of a second). However, this doesn't mean that the end user will experience application response times of only 15 milliseconds. TCP-based applications are often "chatty" requiring thousands of round trips between client and server to complete a request in the worst case (e.g. Microsoft CIFS). Therefore a single action that previously took only two seconds to complete could end up taking 20 seconds or more following migration, causing unacceptable delays to the end users.

4. Complexity: Each Data Centre may have tens of thousands of servers and many more dependencies between hardware, software and business applications. If application servers and backend databases are in different locations then this increases troubleshooting complexity when examining application servers with multiple tiers (e.g. Web front end, database backend, separate authentication server, separate credit card payment server etc.)

5. Resilience: Operating many Data Centres reduces overall resilience if one part fails. Business continuity can be a problem, especially if the data centres are reliant on one another in order to provide the particular service.

"Data Centres are no longer just about hosting business applications. Today, the Data Centre infrastructure needs to be aligned with an enterprise's broader business goals with a focus on reducing operational costs whilst ensuring the end user experience of applications is excellent."

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About Dr Steven Turner

Steven Turner is the VP of IT Optimisation at Intergence. He specialises in Network Optimisation and has successfully completed a large number of optimisation projects for clients in both the public and private sector. Steve is Cisco CCNA and CCNA security certified and is currently studying CCNP. Steve has gained a BSc (Hons) in Computer Science from the University of Warwick, and an MSc in Network Systems from the University of Sunderland. He has also completed a PhD using genetic algorithms in conjunction with parallel processing to produce a multi-utility network optimisation tool. Follow Steve on Twitter.

About Intergence (http://www.intergence.com/)

Intergence (http://www.intergence.com/) is an independent IT Consultancy and Professional Services firm, headquartered in Cambridge, UK, with a regional office in the Middle East (Dubai, UAE). Privately Owned, [Intergence was founded in 2003 to address the growing requirements of clients demanding high-level impartial expertise in networks and IT. Our close relationship within the Cambridge academic community enables us to innovate in partnership, rapidly incorporating the latest technology advances into our solutions.

Intergence are experts in IT Optimisation, specialising in areas such as application, infrastructure and data centre optimisation. We provide Consulting Services to align IT to your business strategy; Resourcing to provide highly skilled expertise and Managed Services to deliver challenging IT projects on time and to budget. Utilising a unique combination of world class expertise, industry-leading methodology and unique tools, Intergence has a clear and common purpose - to allow our clients to extract more value from their existing assets, whilst delivering a first-class service.
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