

White Paper: Virtualisation Project for Desktop Publishing System

Customer: Connacht Tribune Group

Company: CommandIT

Location: Galway, Ireland

Date: November 2009

Project Summary

The Connacht Tribune is the longest-established newspaper in Galway. The desktop publishing system at the newspaper was slow and prone to down-time. This was extremely frustrating for the editorial management and a constant source of pain for the IT support staff. The solution chosen was server virtualisation allowing multiple virtual servers run on a single physical server. This solution provides a high performance and high availability computing environment and was implemented by technology specialist CommandIT. The company has gone from a situation where performance of IT systems was poor and down-time was expected, to a situation now where the system runs smoothly all the time and productivity and efficiency has increased dramatically. Virtually anything is possible!

Who are CommandIT?

CommandIT is an Irish company based in Galway city which offers a range of information technology infrastructure services to small to medium sized (SME) customers in the West of Ireland. Established in 2003, CommandIT currently employs 5 people and is based in Briarhill Business Park.

Key solutions areas

Voice systems – Unified Communications solutions, with features such as auto attendant, call groups, cell phone call forwarding, call recording, call reporting, access for remote workers, email integration, unified messaging and Voice Over Internet Protocol (VOIP).

Computer solutions – Email and Internet connectivity, file and printer sharing, improved productivity through knowledge sharing and collaboration, Internet access to complex inter-office virtual private networking, support for mobile devices, fast and flexible deployment Servers, Desktop and Laptop computers

Server Consolidation and Virtualisation – Solutions to consolidate servers using the latest in virtualisation technologies from VMWare. Virtualisation dramatically improves the efficiency and availability of resources and applications in an organisation.

Security solutions – Anti-Virus, Anti-spam, Encryption, Secure email solutions.

CommandIT understand the importance IT play's in maintaining business relationships and also that the needs and requirements of every business are diverse. CommandIT work closely with the customer to provide a tailor made, flexible and scalable IT solution.

Project background

The Connacht Tribune is the longest-established newspaper circulating throughout Galway county and city. First hitting the news stands on 22nd May 1909, the newspaper has charted the commercial, cultural and social life of the region and its people for over a century.

Through two world wars, the struggle for independence, the hard times of early nationhood to the boom of the 1990's and the current decade, the Connacht Tribune has been the source of news, sports and entertainment for generations of Galway's people. Now out early on Thursday morning, it has provided a voice for the voiceless and been an impartial commentator on local politics. This tradition continues, adapted for today's Galway with bigger, brighter papers and a significant and growing online presence.

In 1925 the company launched the Sentinel, now a bright, modern tabloid issuing on Tuesdays aimed at Galway City with a heavy emphasis on Sport and Lifestyle as well as strong news content.

The Galway City Tribune was added in 1984 to address the demands for a fully-fledged newspaper in Galway City. It combines the high journalistic and photographic standards of the Connacht Tribune with features and content aimed at city-based readers and issues on Friday morning.

The Tribune was a founder shareholder in Galway Bay FM in 1989 and gradually grew its interest in the radio station as the fledgling station incurred heavy losses and demanded extra cash in its early years. In 2006 the remaining shares were purchased making Galway Bay FM a full part of the Tribune group.

In May 2007 www.galwaynews.ie was launched to provide daily news updates on Galway to a wider audience. Combining the strengths of the radio and newspaper editorial teams it provides daily breaking news from Galway Bay FM and more in depth news and photos from the Tribune's three newspapers.

Desktop Publishing

Quark Publishing System (QPS) lets design and editorial teams use a single workflow system to improve collaboration, streamline newspaper workflow, and achieve cost savings. It provides tools for teams of writers, designers, and editors to collaborate, integrate their tasks and produce content for publication across mixed media. The system includes a server that tracks all elements contributed by workgroup members as well as client applications for writers, designers, editors, and workgroup managers to work on project or publication elements.

QPS integrates and connects easily to business systems and complementary publishing solutions. It lets workgroup managers set up automated workflows to route files to the next person or step in the workflow, eliminating errors and expediting the overall production process. The system also allows multiple users to work and contribute simultaneously to a single project and provide real-time updates to everyone.

QPS provides multiple access methods, including client-side applications and Web access to give workgroup contributors quick and easy access to the system whenever and wherever they want.

What it does for the paper

QPS relieves pressure and increases productivity, maximizing existing resources, and delivers flexibility to a dispersed newspaper workforce using today's standard publishing tools. Newspapers are faced with the dual challenges of declining advertising revenues and unrelenting deadlines, where you cannot afford inefficient, unreliable, or costly processes. QPS editorial workflow system delivers maximum value to make publishing easier and is the most critical component in producing high quality newspapers.

The Problem

The Quark Publishing System is a crucial element of the IT systems at the Connacht Tribune and the paper cannot be delivered without it. The nature of the newspaper business is such that publishing deadlines must be met to ensure the paper is printed on time ready for the Newsagents shelf. The Quark system was slow and prone to down-time. This was extremely frustrating for the editorial management and a constant source of pain for the IT support staff.

The Connacht Tribune needed an infrastructure solution that met three main criteria

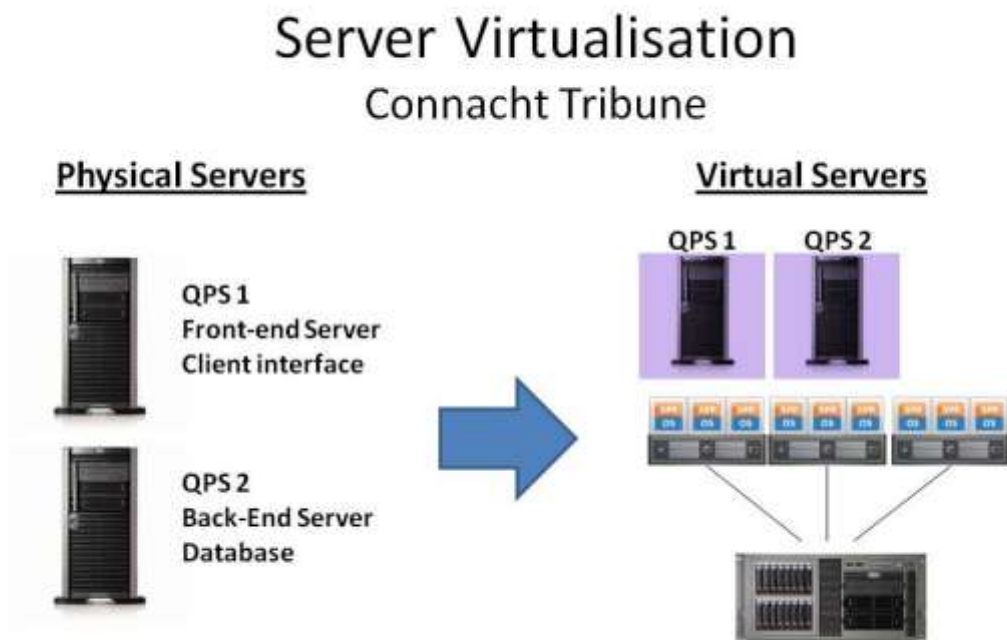
- High performance – the system needed to run faster
- High Availability – the system had to be available all the time
- Redundancy – the system had to have “real-time” failover in case of hardware failure

The solution

The solution chosen was a server virtualisation solution from a company called VMWare of which CommandIT is a partner. Virtualisation is a proven software technology that is rapidly transforming the IT landscape and fundamentally changing the way that people compute. Today’s powerful computer hardware was designed to run a single operating system and a single application. This leaves most machines vastly under-utilized. Virtualisation lets you run multiple virtual machines on a single physical machine, sharing the resources of that single computer across multiple environments. Different virtual machines can run different operating systems and multiple applications on the same physical computer. VMware is the market leader in virtualisation. Their technology is production-proven, used by more than 150,000 customers, including 100% of Fortune 100 companies.

The QPS system runs Microsoft Windows Server 2003 servers. There are two servers involved, a front-end server which serves client connections and a backend server running a SQL Database. The system traditionally ran on two physical Dell Poweredge servers and both of these were migrated onto a single Dell Poweredge Server running VMWare virtualisation with a second Dell Poweredge Server for redundancy (see Fig. 1).

Fig 1. – Server Virtualisation



QPS had not used virtualisation technologies before so this was a World first for them. A virtual QPS test environment was setup as an identical copy of the production system. The results were excellent and surprising. The QPS system actually ran much faster in a virtualised environment! Not only was the system meeting its high availability and redundancy requirements but it was working much quicker!

The physical server is configured with more resources (CPU, memory and disk space) than the virtual machines actually need. This allows resources to be allocated on an as-needed basis, for example if a server needs more disk space, this can be allocated from the pool of resources without any down-time.

Disaster Recovery

The virtual environment provides superior disaster recovery capabilities. There are two main recovery scenarios

1. Real-time recovery – At any time a 'snapshot' of the server can be taken and reverted to. This is useful if one of the virtual machines has a software problem e.g. if a Windows Server blue-screens. See Fig. 2.
2. Replication – The virtual machines are replicated in real-time to an identical backup server. This is used if the primary physical server develops a hardware problem e.g. if a system board fails in the primary server, the secondary server can be fired up. See Fig. 3.

Fig. 1 – Real-time recovery

Real-time Recovery

Quickly restore a snapshot of a Virtual Machine

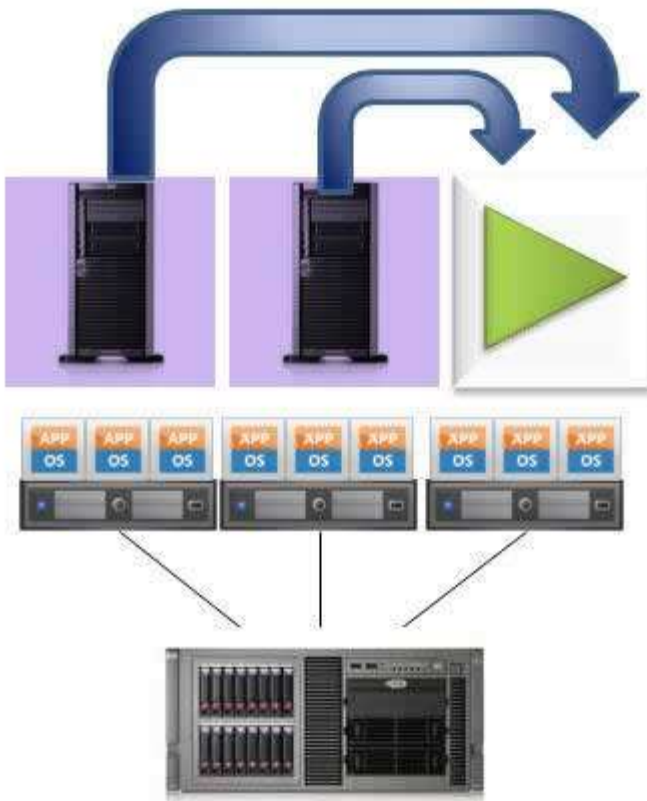
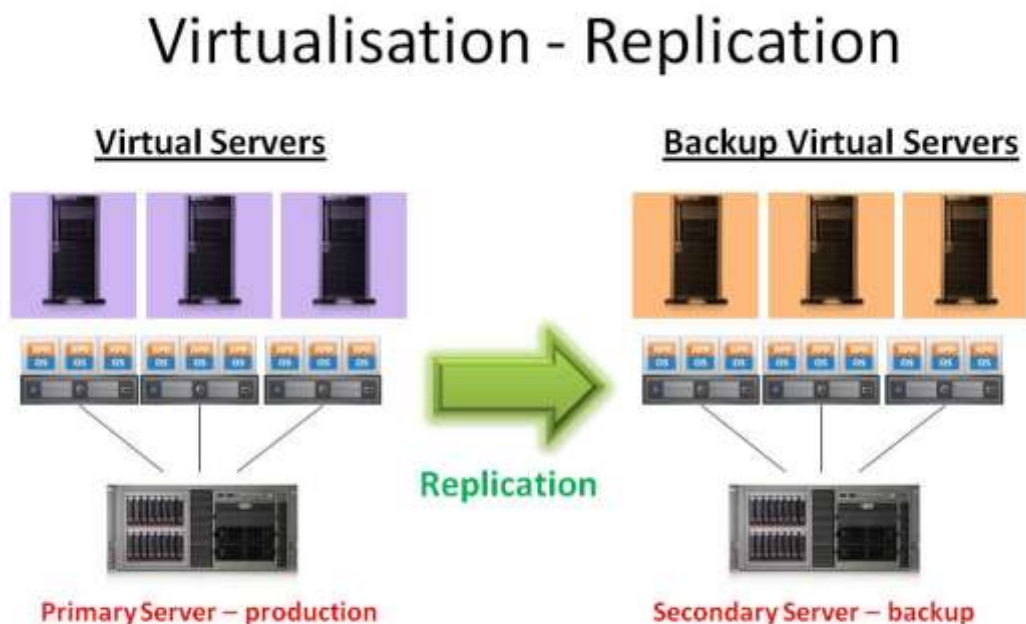


Fig. 3 – Replication



Conclusion

The Connacht Tribune has undergone a transformation of its IT environment. It has gone from a past where performance of IT systems was poor and down-time was expected, to a situation now where the system runs smoothly all the time and productivity and efficiency has increased dramatically. This now ensures that the paper goes out on-time every time and has freed up IT and other resources to perform other much needed additional tasks.

The project has been such a success that more virtualisation projects are planned (accounts application and email server).

CommandIT project implementation was well planned and they dealt with issues smoothly and quickly. They really go that extra mile and their post-installation is second-to-none. Now, virtually anything is possible!