

Harnessing the Compelling and Complementary Strengths of Microsoft® Exchange Server 2010 and Cisco's Unified Computing System



The old adage 'the whole is greater than the sum of its parts' couldn't be more applicable to 21st century technology environments. In today's interconnected, heterogeneous computing landscape, the need for interoperable solutions to connect workflow across systems has become critical. Without it, the typical business would be filled with a myriad of systems and devices that duplicate functionality, do not integrate, and leave users frustrated.

The good news is that increasingly, the solutions and services providers developing today's pioneering technologies are heeding the requirement for diverse IT applications and systems to effectively and efficiently exchange information – in order to foster agility and innovation and enable organisations to wring maximum value from their IT investments. Recent product releases from market leaders, Microsoft and Cisco, have taken the level of technology interplay and interoperability to new heights, enabling organisations to reduce costs and drive business productivity in new ways.

This opinion piece profiles a compelling example of these vendors' complementary strengths in action: Microsoft® Exchange Server 2010 on Cisco's Unified Communications System (UCS), and explores why, if it's rich and productive e-mail collaboration you're after, this is a solution well worth considering.

The collaboration imperative

E-mail is arguably one of the most critical business applications and finding ways to ensure high availability and optimise performance is an imperative. Transforming the enterprise communications platform to meet changing business needs; providing e-mail continuity; serving a mobile workforce; safeguarding company communications – these are issues no CIO can afford to ignore.

Microsoft® Exchange Server is the world's most pervasive e-mail platform and forms the foundation of most organisations' unified communications and collaboration strategies. And with the release of Exchange Server 2010,

organisations are now even better able to address the business need for mobility and user access to e-mail, from almost anywhere in the world – optimised by virtualisation.

The latest release of Exchange delivers a wide range of deployment options, a full-featured user experience across the desktop, browser, and mobile device, and integrated information protection and control. Building on investments in Microsoft® Exchange Server 2007, Exchange Server 2010 helps IT departments improve reliability and performance through features that simplify administration, help protect enterprise communications and enhance mobility.

With the market availability of Exchange Server 2010, many organisations are weighing up the benefits the new version brings against the complexity of deploying and integrating it within the organisation. According to Jon Farrell, one of Dimension Data's Enterprise Architects in Australia, while the opportunities that exist for Exchange Server 2010 to unlock more rich and productive collaboration, the decision to migrate to the new release should not be made in isolation. Effecting a seamless deployment and harnessing all the benefits that the system offers requires that the selection of the appropriate data centre platform on which the organisation operates not be considered as an afterthought.

There are several reasons for this, the first being that moving business-critical applications, such as Exchange Server 2010 to a virtualised environment is a logical step for today's large and medium-sized businesses.

"With collaboration and anywhere access to e-mail resources taken for granted, the ability to virtualise a critical function such as e-mail is becoming fundamental in the data centre as organisations look to reduce costs, increase efficiency and ensure high availability."

For these businesses, moving to Exchange Server 2010 is a logical choice, as it's designed to operate optimally within a virtualised environment, whether for mailbox, client access, hub transport or edge transport role. It combines high availability with greater fault tolerance

and disaster recovery than physical server architectures, while at the same time providing more scope for consolidation.

"Another reason that Exchange Server 2010 is ideally suited to virtualisation is that it allows organisations to scale their e-mail environments when required without having to install additional hardware, thus preventing the problem of over-provisioning,"

explains Farrell.

While the virtualisation of one's e-mail system looks good on paper, many organisations are hesitant to take this step due to the intense availability and performance requirements associated with messaging environments. After all, when the e-mail system goes down, people's frustrations intensify – and both productivity and profits plummet.

"Exchange Server 2010 is a good example of a tier 1 application that benefits hugely from being virtualised, provided it's done on a properly architected infrastructure. Then the argument to virtualise becomes a lot more compelling,"

says Farrell.

Selecting the right platform

When it comes to data centre platforms, there's no shortage of options available (with IBM, HP and Sun well established in this domain). However, there's growing recognition in the market of the unique benefits that Cisco's UCS platform can deliver from a flexibility, reliability and scalability perspective.

UCS breaks down the traditional barriers between the networking and computing environment in the data centre to provide a more responsive IT infrastructure. It provides a data centre platform that seamlessly integrates various aspects of the IT infrastructure such as network, storage, servers, virtualisation and management tools, simplifying the structure and centralising management. Combining a unified 10Gb network fabric with industry standard x86 blade server architecture, UCS offers a high performance, low cost solution that's both integrated and scalable. It can handle up to 320 physical blades per system and thousands of virtual machines without the complexity of traditional data centre architectures.

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With UCS, Cisco provides the first step towards virtualisation for organisations that have not yet embarked on the journey, or are hesitant to do so.

According to Farrell, it is not uncommon for Dimension Data to recommend that clients leverage the virtualisation capabilities of Exchange Server 2010 in tandem with move to a UCS environment.

"Running Exchange Server 2010 on UCS is as safe as running the system on a dedicated server. Cisco and Microsoft have collaborated to enable rich interoperability between the Exchange Server 2010 and the UCS platforms, and Dimension Data has executed numerous successful deployments of Exchange 2010 using UCS since its release for clients around the globe in all industry verticals. "We often recommend that clients move to UCS, as the platform allows them to 'test the virtualisation water' before rolling it out across the data centre. It allows blades to be re-purposed from physical servers to virtualised machines online, in as little as 30 minutes, making testing and deployment easier than on a physical system. This is particularly important where costs or disaster recovery are a major concern. The blades can be used as a testing environment and then rapidly turned into a production server."

Also attractive to CIOs is the fact that on Cisco UCS, Exchange Server 2010 can always operate at maximum memory speed. This equates to a huge boost in memory performance in large memory configurations.

"A rack of UCS blade servers each with up to 385GB of RAM can provide either four times the memory capacity or deliver it at a quarter of the cost of an equivalent system – so this is a real example of having your cake and eating it,"

explains Farrell.

"In addition, there's a 10% to 20% increase in CPU availability as the hyper-visor software devotes processing to the workload rather than to the back-end network. This means that workloads can be moved around to meet peak demands, reducing network congestion and allowing administrators to plan capacity according to the requirements of the system. The result? End-users don't feel the pain of bottlenecks."

The argument in favour of running Exchange Server 2010 on the Cisco UCS platform is made even more compelling by the simplified and centralised management features the platform offers. UCS has a single management platform for controlling the system's fabric, adapter and hardware. operating a single system of up to 320 blades and 40 chassis. Moreover, Cisco's release of its UCS Management Pack for Microsoft System Centre Operations Manager (SCOM) further lightens the management burden, offering administrators a holistic view of the UCS system hardware, server profiles, operating systems and virtual machines through a single interface. Using the native Microsoft SCOM format, the overall health of the system – from chassis and blades to subsystems – is constantly monitored, allowing administrators to determine the impact of events before they occur.

The best of both worlds

It's no secret that your ability as an organisation to communicate is inherently dependent on e-mail. Moving to Exchange Server 2010, can add great value to your messaging system, but proper planning is vital to the overall success of a deployment. The initial assessment of the IT environment, planning, testing and training of end users are all critical determinants of success. There is also a need to evaluate the merits of migrating to a next-generation data centre platform such as Cisco UCS to ensure you are able

to unlock the full and true benefits of Exchange Server 2010, especially if you are considering virtualising your e-mail system in the near future. As a solution, Exchange Server 2010 on UCS makes a great deal of business sense not just for the high-end market, but also for the medium-sized organisations, as it is far more cost-effective than conventional solutions, requiring less hardware and fewer resources.

If you have any doubts about going down this road alone, there's no shame in hiring an external entity to help. Enlisting the expertise of a systems integrator with specific expertise in Microsoft, Cisco and other vendors' technologies can enhance your chances of a seamless deployment and migration. The right partner can also ensure you achieve the most benefit from the new system as it gives you a single point from which the initiative can be both launched and coherently managed going forward.

Dimension Data has a longstanding partnership with Microsoft. We are Gold-certified in 21 countries around the world and our Microsoft experts hold more than 1,300 Microsoft certifications. This, coupled with our status as one of Cisco's largest global partners, means Dimension Data is regularly engaged by companies around the globe who are grappling with the complex issues discussed in this paper. As we have a wealth of Exchange experience to draw on, as well as access to Microsoft's extensive global knowledge base, lessons learned from other deployments and migrations can be applied to ensure the success of new projects.

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