



Avance: Making Microsoft Exchange Environments Available and Reliable

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EXECUTIVE SUMMARY

Although once thought of as ancillary, collaborative software, such as Microsoft's Exchange, has become central to business operations for companies of all sizes. This software serves several very important functions including managing personal and company wide contact information, calendars, to do lists and, of course, the electronic communication of messages, documents, spreadsheets, and presentation decks. Furthermore, this data is made available to people using many different types of systems including desktop, laptop, tablets, and smartphones.

Service interruptions can hamstring business operations. Unfortunately, many business executives still consider these tools ancillary and don't take the steps necessary to make them available and reliable. These executives either don't fully understand the impact of downtime due to an outage or believe that their off-the-shelf systems are reliable enough for their purposes.

Another reason these business executives don't focus on increasing the availability of their collaborative environments is that they believe that high availability solutions are both costly and complex. If they are using collaborative Software as a Service (SaaS) offering, they believe that the supplier is responsible for reliability and availability, an assumption they may wish to reevaluate.

This paper is intended to examine the issues that can be caused by service interruptions, the business pain these issues can cause, what an ideal solution would be and then consider Stratus Technologies' Avance as a tool making Exchange more reliable and available.

WHAT IS COLLABORATIVE SOFTWARE?

Collaborative software combines several functions to facilitate managing contact information, tasks or "to do lists", calendars, and the electronic distribution of messages, documents, spreadsheets and presentation decks.

More sophisticated versions of this type of software may support personal, group and company-wide contact lists, billing and revenue systems, calendars and message/file storage. Billing statements might automatically be generated and sent to customers based upon the Exchange workflows. Reminders for late or missing payments may also be automatically generated the same way. It may also link to Internet social networking sites, such as Twitter, Facebook, LinkedIn and the like.

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Today, it is expected that a modern company will make use of this software for a major portion of its communication with customers, staff, contractors and partners. In some cases, this software has become a requirement when communicating with government or regulatory bodies.

People expect to be able to access and update this information using any device (desktop, laptop, tablet, smartphone or whatever), over any handy network from anywhere in the world at all times.

ISSUES CAUSED BY COLLABORATIVE SOFTWARE SERVICE INTERRUPTIONS

When most business transactions were accomplished via the postal service, the telephone or via exchanges of faxed messages, collaborative software was considered an internal tool and was only occasionally used for communications with the company's customers, partners, suppliers and contractors.

As these organizations and people stepped up their own use of collaborative software, companies were increasingly forced to step up their use of this technology. Today it is very difficult to communicate effectively without it.

Now, documentations containing requests for proposals (RFPs), requests for information (RFIs), estimates, invoices and payment information are exchanged through this medium rather than through paper mail, faxed messages and the like.

A service interruption means that none of these important types of communication are delivered in a reliable and timely fashion.

THE PAIN THE ISSUES CAUSE

Service interruptions can create an environment in which:

- Customer requests for proposals, quotations or information are either not delivered or are delivered late. This can mean that a company may not be aware of sales opportunities.
- Company proposals, quotations, and invoices may not be delivered or not delivered in a timely fashion. This can make sale of the company's products or services impossible for a time. It can also delay payment for those products or services.
- Employees and contractors may not know when and where they are expected to go to meet with customers, suppliers and partners. This can lead to unsynchronized efforts that can delay products and waste effort. It may also result in failed projects.
- Users of remote handheld devices, such as tablet computers and smartphones, may not be able to work at all during a service interruption.

In the end a service interruption of the company's collaborative system can result in a significant loss of revenues.

HIGH AVAILABILITY SOLUTIONS CAN BE COSTLY

Systems, applications or processes that are expected to present a very high level of reliability and availability have certain common characteristics. These systems typically operate around the clock. They typically are based upon system configurations that have a great deal of redundancy. For the most part, to achieve this level of availability and reliability, the configuration must include the following:

- Redundant systems — Several systems are harnessed together to create a reliable environment. If one system fails, the other(s) take up the workload so that no transactions or data are lost.
- Redundant storage — As with systems, several storage systems or storage devices are harnessed together to make sure that no data is lost even when a device fails or is taken off line for routine maintenance. Some times, storage servers are installed on their own special network. This network is called a Storage Area Network or SAN.
- Redundant networks — Once again, it is wise to use multiple network paths from systems to the network. If a network component or, perhaps, an entire network fails or is taken out of service for maintenance, work continues on the remaining network.

Many approaches to developing highly available systems are complex and require the company's staff to have high levels of expertise in systems, system software, high availability/clustering monitors, application frameworks, database management systems and storage servers. It is also necessary to understand how client systems such as desktop computers, laptop systems and a whole host of new portable devices deal with a changing server environment.

Traditionally, highly available systems are more complex than stand-alone systems. Every component is duplicated to prevent a single point of failure. Some approaches require the company be aware of this complexity and address it on an ongoing basis, which may require new resources and skills to manage the system. Some approaches hide this complexity through highly sophisticated software.

Small to medium companies typically don't staff up to have access to this type of expertise. They work with a partner that has this expertise.

WHAT WOULD AN IDEAL SOLUTION BE ?

An ideal solution would make the company's collaborative software constantly available and reliable. The high levels of availability would reduce the costs of downtime.

The ideal solution would assure companies that:

- Its customers, partners and staff are always able to communicate
- RFPs, RFIs and RFQs are always delivered to the appropriate people efficiently and in a timely fashion
- Calendar entries and contact information are always available and kept up to date
- The solution would keep information available to everyone regardless of whether a desktop, laptop, tablet or smartphone was the access device.

The ideal technology would take steps to make the overall solution manageable and would require minimal staff expertise for its installation, configuration and ongoing management. It would gather information on the environments day-to-day operations and suggest improvements before small issues become large problems.

A very important consideration is that this ideal availability and reliability solution would operate on industry standard, off-the-shelf systems, software and applications, such as Microsoft's Exchange.

STRATUS TECHNOLOGIES AVANCE AND HOW IT COMPARES TO THE IDEAL

Stratus Avance® software offers the capabilities that address the issues and the problems they create to small and medium businesses (SMB), requiring the most reliable and affordable solution for keeping critical applications, such as Microsoft's Exchange, up and running. Unlike traditional high-availability (HA) clusters, Avance delivers far superior and more reliable uptime without the cost and complexity of clusters.

Avance works to proactively detect and prevent system outages. Its dual server, real time architecture makes it possible to keep Exchange on the air even if a system or storage component fails. As with any Microsoft application, Exchange does not need to be modified or re-engineered.

Avance also works to prevent the most common cause of downtime, human error. Avance software automatically sets up and manages itself greatly reducing the opportunity for human error and thereby improving the uptime and reliability of the company's infrastructure. It will even "phone home" if needed. This removes the requirement for on-site IT support. IT experts can address any performance or server-fault issues over the Internet.

To reduce cost and complexity, Avance provides high availability without also requiring external shared storage to work. Shared storage area network (SAN)-based storage is supported, of course, if desired.

Avance automatically prevents unplanned downtime and data loss by continuously monitoring the server pair for faults. If it detects a server fault, the applications continue to run on the companion server and the systems administrator is automatically notified.

The Avance split-site feature makes it possible for the parallel servers to be housed in separate facilities, up to three miles apart, to ensure applications continue to run even if one location faces a local disaster.

S U M M A R Y

Small to medium businesses need the proper tools to make their collaborative solution based on Microsoft's Exchange highly available and reliable.

They, like larger organizations, face the need to keep their Exchange configuration continuously available in a cost-effective manner. The complexity of the solution must be kept under control without also requiring that these companies hire IT experts having skill in high availability solutions, system programming or other special training.

Technology, such as that built into Stratus Technologies' Avance can address the issues and the pain these issues cause. It would be beneficial to ask one of Stratus' partners for a demonstration of the capabilities of the product.

For more information, please visit
<http://www.stratus.com/Products/AvanceHA.aspx>