A Guide to Understanding Hosted and Managed Messaging

An Osterman Research White Paper

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Why This Document Will be Worth Your Time

Electronic messaging has become the de facto communications medium and file transport system used in the workplace today. Most information workers rely on email more than they do the telephone, fax or paper-based communication. The vast majority of organizations use email for sending, receiving and storing critical business records, including purchase orders, contracts, requests for proposal and other content. Instant messaging (IM) use is also on the increase, as are Web-based tools for communication and collaboration.

Consequently, messaging – particularly email – has become absolutely critical to the operation of most enterprises and has become something of a utility, much like electricity or water provision in certain key respects:

Messaging has become absolutely critical to the operation of most enterprises and has become something of a utility, much like electricity or water provision in certain key respects.

- It must be available at all times,
- It must meet anticipated and unanticipated spikes in demand, and
- Its cost should be driven as low as possible

How Should Messaging be Managed?

Organizations can manage their messaging functionality in one of three ways:

- Completely internally using in-house staff, hardware and software.
- Completely externally, using hosted or managed service providers for all messaging functions.
- Through the use of a hybrid approach in which some functions are managed internally and some are managed by a third party.

The purpose of this document is to offer an unbiased discussion and analysis of the key elements that must be considered by decision makers as they evaluate options for managing their messaging systems. Its goal is to inform decision makers about the benefits of using a hosted or managed messaging service and the key questions to ask of any provider of a single messaging service or a complete suite of services.

Messaging is Getting More Difficult to Manage

Managing messaging capabilities in virtually any organization is becoming more complex, more difficult and more expensive. At the same time, organizations are becoming increasingly reliant on highly available and robust messaging functionality. This difficult conundrum in which decision makers and managers find themselves has been caused by a variety of external threats and internal demands.

Inbound Problems

Spam, phishing, viruses, worms, Trojan horses, spyware, blended threats and other threats are all on the increase, as are bulk mail attacks. This is creating a variety of basic security problems for IT staff members that are charged with managing messaging systems.

Spam, phishing, viruses, worms, Trojan horses, spyware, blended threats and other threats are all on the increase, as are bulk mail attacks. This is creating a variety of basic security problems for IT staff members that are charged with managing messaging systems.

Among the more serious of these problems has been the traditional nemesis of messaging administrators – spam. For example, during just the latter half of 2006, spam volumes roughly doubled, overwhelming data connections and the entire mail server infrastructure at many companies. Add to this the growth of image spam designed to thwart conventional spam-filtering technologies and, more recently, spam that uses PDF and Microsoft Excel files to distribute spam. Even for those organizations that can effectively block newer spam threats, they are dealing with messages that are roughly five to ten times the size of conventional text-based spam messages and so consume more bandwidth and storage. The growth of botnets that consist of infected 'zombie' computers that distribute spam in ever-increasing volumes is making the problem worse and more difficult to stop because of the millions of potential sources of spam.

In addition to spam, email is increasingly an attack vector for hackers and others, resulting in dictionary attacks, denial-of-service attacks, directory harvest attacks and other quite serious problems that messaging administrators must address.

The use of native consumer instant messaging clients can put an organization at serious risk of malware infection by opening a threat vector for hackers and others to exploit. The number of IM-oriented threats has increased dramatically through summer 2007 compared to the corresponding period in 2006.

Further, blended threats are becoming a more serious problem. In such a coordinated attack, an email that includes a link to a malicious Web site will be sent as spam. When a user clicks on the link, malicious code that is hosted on the Web site will be downloaded to the user's computer. The code might turn the infected computer into a zombie for use as part of a botnet, or it might install a keystroke logger that can intercept credit card numbers or other confidential information. Increasingly, code that is used for email virus attacks is being discovered on Web sites. Blended threats make it even more important to view threats holistically, considering solutions to email, Web and IM threats together.

Organizations must increasingly focus on creating and enforcing email and electronic content policies that are designed to protect an organization from liability in the context of regulations and legal rulings that require appropriate transmission, retention and management of this content.

Aside from the security issues associated with inbound content are the increasingly thorny issues surrounding policy management. As discussed below, organizations must increasingly focus on creating and enforcing email and electronic content policies that are designed to protect an organization from liability in the context of regulations and legal rulings that require appropriate transmission, retention and management of this content.

Add to all of this the fact that email messages are simply getting larger[1] because a growing proportion of legitimate messages contain attachments, and the fact that email use in the workplace is increasing – Osterman Research has found that email use is increasing at about 20% annually. Further, email payloads are becoming more varied and include not only content generated by desktop productivity applications, but also voice messages, media clips, graphics files, encrypted messages and other content that typically requires more storage and specialized knowledge for virus scanning, archiving, regulatory compliance and e-discovery.

Outbound Problems

In addition to the quite serious problem of inbound messaging security is the equally important problem of outbound security.

There are a variety of problems that can result from improper use of messaging systems, including the loss of intellectual property or violating privacy regulations by employees who inadvertently or, in some cases, intentionally send confidential or otherwise sensitive data outside of the

[1] An IDC report showed that email size is increasing at the rate of 35% per year.

organization in an unauthorized way or in clear text. Also, there have been many cases in which employees have sent inappropriate content, such as racist jokes or sexually offensive material, and thereby put their employer at risk of a legal action.

Other outbound security concerns are numerous and focus on spammers hijacking corporate mail servers, the problem of securely supporting remote employees communicating with corporate servers when they are outside of the corporate IP space, protecting against user mistakes that could compromise network and/or data security, and other problems.

Archiving, Data Retention, Data Recovery and Discovery Requirements are Growing

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There is a growing body of requirements to preserve email, instant messages and other electronic content as evidence for legal actions and for regulatory obligations. For example, the new amendments to the Federal Rules of Civil Procedure (FRCP) that went into effect on December 1, 2006 require organizations to pay closer attention to their electronic information, of which email is the largest single component in most cases. Because email is now included in about 75% of all e-discovery proceedings, an organization's ability to preserve this content for the appropriate length of time, in the right form and in a manner that makes it easy to access over the long term will be increasingly critical. This will dictate the use of archiving systems that can automatically index incoming content, place it into archival storage where the chain of custody for the data can be demonstrated, and allow it to be searched quickly and easily over long periods. It is important to note, however, that instant messages and other electronic content must also be preserved along with email, further complicating the issue of data retention and management.

Among the growing body of regulatory requirements to preserve and manage messaging and other electronic content are the following:

- **Securities and Exchange Commission (SEC) Rule 17a-4** and **National Association of Securities Dealers (NASD) Rules 3010, 3013 and 3110** require that relevant securities dealers' correspondence with the public must be supervised, reviewed, retained, audited and otherwise managed according to a strict set of criteria. Similar rules apply to investment advisors as delineated under **SEC**

Rules 204-2 and **206)4)-7** and for hedge fund advisors under **SEC Rule 203(b)(3)-2**. Canadian investment dealers are governed similarly under rules developed by the Canadian Investment Dealers Association.

- **Sarbanes-Oxley** places much greater emphasis on retaining business records for corporate governance purposes. It requires most public organizations to preserve and manage email, instant messages and other electronic content. However, Sarbanes-Oxley also has implications for privately-owned firms that may seek to be acquired by a public company, or that want to do business with one.

- The **Gramm-Leach-Bliley Act (GLBA)** requires financial institutions that hold personal information to transmit and store this information in such a way that its integrity is not compromised and to comply with a variety of Securities and Exchange Commission and NASD rules.

California's SB1386 is a far reaching law that requires any holder of personal information about a California resident to notify each resident whose information may have been compromised in some way.

- The **Health Insurance Portability and Accountability Act (HIPAA)** requires that Protected Health Information (PHI), such as an employee's identity and his or her health condition or medications, remain confidential. For example, if an email that contains PHI is sent from a supervisor to an external benefits administrator, it must be encrypted. There are a variety of areas within HIPAA that must be addressed, including archiving of data, but protection of patient confidentiality is of paramount importance for all electronic communication.

- Section 215 of the **Patriot Act** allows a federal judge to issue an order permitting the FBI to obtain a business' records that are deemed relevant to a terrorist investigation.

- California's **SB1386** is a far reaching law that requires any holder of personal information about a California resident to notify each resident whose information may have been compromised in some way. This requirement makes it extremely important to retain and transmit records in an encrypted form.

- The **Personal Information Protection and Electronic Documents Act (PIPEDA)** is a privacy law that applies to all Canadian companies and that requires personal information to be stored and transmitted securely.

- The **UK Data Protection Act** imposes requirements on businesses operating in the United Kingdom to protect the security of personal information and to preserve information only as long as it necessary to do so. The Act requires, at least by implication, encrypted transmission of personal information and its secure retention.

It is also important to note that archiving/data retention is one issue and that recovery/discovery is a related, but somewhat different, issue. While it is critically important to *retain* data according to corporate policies and other requirements, *recovering* that data, such as during e-discovery, is often more difficult and involves more than just searching for data.

For example, if someone is *searching* a data store, they are most often looking for something specific. *Discovery*, on the other hand, is more often about finding something without the specific knowledge of what is being sought, such as any sort of communication that *might* contain any of a set of keywords. This is particularly important in the email use case for a company that may know about an issue, but has no way of knowing that they have everything related to that issue. As the volume of data increases, so does the need to have the discovery tools to find and recover it. This is where a company requires a multi-pronged toolset in order to find everything about a matter quickly and efficiently.

The growing proportion of sensitive content sent through and stored in email systems, coupled with increasing regulatory and legal oversight over email content, means that more and more email messages must be encrypted.

Encrypted Messaging is Becoming More Important

The growing proportion of sensitive content sent through and stored in email systems, coupled with increasing regulatory and legal oversight over email content, means that more and more email messages must be encrypted. Organizations must deploy technology that can encrypt email messages, either when a sender opts to do so, or via a policy-based system that will automatically scan outbound content and encrypt messages when the system detects potentially sensitive content within a message.

Messaging Reliability is Becoming Very Critical

Email has become absolutely essential to maintaining user productivity – Osterman Research has found that user productivity drops by about 25% when email is unavailable. In a June 2007 Osterman Research survey among corporate email users, we found that the average user sends and receives 140 emails each day, or an average of one email every 3.4 minutes. As a result, even very short email outages can wreak havoc on user productivity.

In short, messaging system availability is essential – these systems must experience as little downtime as possible. To accomplish this with on-premise systems, organizations must implement clustering and other technologies, as well as geographical distribution of messaging capabilities, that can maintain availability to the greatest extent possible during power outages, natural disasters, infrastructure failures, hardware problems, software glitches and the like.

Business Continuity and Disaster Recovery

In the broader context of messaging system reliability is the need to maintain continuity of business operations during disasters, whether that disaster is as serious and widespread as a hurricane or something as simple as a leaky sprinkler pipe above a server room. This requires that systems must be deployed that can provide access to messaging capabilities during disasters. An inability to maintain continuity of messaging operations during outage of the primary messaging system can have serious and negative ramifications on virtually any business.

In the broader context of messaging system reliability is the need to maintain continuity of business operations during disasters, whether that disaster is as serious and widespread as a hurricane or something as simple as a leaky sprinkler pipe above a server room.

Server and Patch Management is Time-Consuming

IT managers charged with maintaining email servers and other messaging-related systems, including the operating system on which the server runs, can spend a significant amount of time installing and testing patches. Plus, patches can conflict with other systems that can cause outages in servers, creating additional problems. These problems are magnified when there are multiple solutions for different communications channels, as well as if a company has multiple locations that need protection.

Storage and Backup are Becoming Increasingly Critical

Messaging storage is increasing at an average of 35% per year according to a Spring 2007 Osterman Research survey, due in part to growing mailbox sizes. This means that a terabyte of storage today will grow to approximately 2.5 terabytes of storage within just three years. Further, Osterman Research has found consistently in a number of surveys over the past few years that growth in storage management is the leading problem faced by messaging decision makers. Adding to these problems is the inordinate amount of time that full backups require. For example, an Osterman Research survey conducted for FalconStor in June and July 2007 found that 30% of full backups take more than eight hours to complete.

Mobile Messaging is Growing in Popularity

The use of mobile messaging devices is on the increase – Osterman Research forecasts that the percentage of corporate email users that will employ a mobile messaging device will increase to 35% by 2010. Further, a 2007 Osterman Research survey found that 23% of corporate data currently resides on laptops and other mobile devices.

The growing popularity of mobile messaging creates a number of problems for messaging managers. First, corporate data can be more easily lost than it can be with desktop messaging systems. For example, Pointsec found in a study of a Chicago taxi company that 6.8 mobile phones and 1.7 personal digital assistants were lost per taxi cab each year. The potential for data loss arising from such physical loss of devices means that organizations must implement remote kill facilities for these devices or they must deploy encryption technology that will protect data in the event of its loss.

Organizations must establish sound policies that can adapt to changing requirements, these policies must be enforced, and systems must be implemented that can assist organizations with their management and enforcement.

Further complicating the difficulty associated with managing mobile devices is that they tend to be used by higher profile individuals within most organizations – senior managers, traveling employees and others for whom system downtime is even less tolerable than it is for the average email user.

Policy Management is Becoming Increasingly Critical

In essence, everything discussed above is a policy management issue: the way that incoming messages are processed, the criteria for scanning and managing outbound content, maintaining business continuity, archiving content, encrypting messages, managing mobile devices and managing all of the other tasks associated with providing highly reliable messaging services boils down to specific policies that organizations have implemented (or should implement) and the manner in which they enforce them.

Consequently, policy management is a critical consideration for any organization in the context of how it provides messaging services. Organizations must establish sound policies that can adapt to changing requirements, these policies must be enforced, and systems must be implemented that can assist organizations with their management and enforcement.

However, a May 2007 survey by Osterman Research found that only one-third of organizations have developed a detailed and thorough email policy and that only 13% of organizations report that there is extensive understanding and compliance with the corporate email policy. Further, there is generally even less focus on policy for IM and Web use despite the fact that policy management for these media are becoming extremely important.

Ultimately, policy management is part of the larger context of corporate governance of messaging systems – basically, the manner in which organizations manage their messaging facilities and what they do with the data transmitted and stored in these systems. There is a benefit of having integrated policy management across multiple communication channels and geographies. This reduces the cost of policy management, and more importantly helps to ensure that policies are consistent and synchronized across the multiple channels. With separate policy management across channels there is a significantly increased chance of non-compliant communications occurring on one or more communication channels.

The total cost of ownership for a messaging system is anywhere from $15 to $50 per seat per month and can be much more in some cases. Further complicating the problem is that messaging costs are not as predictable as many decision makers would like them to be.

Rising Costs

Maintaining messaging functionality is not a trivial expense. Depending on an organization's specific requirements, the number of email users it supports, the geographic distribution of its employees and other factors, the total cost of ownership for a messaging system is anywhere from $15 to $50 per seat per month and can be much more in some cases. Further complicating the problem is that messaging costs are not as predictable as many decision makers would like them to be – a power outage, the outbreak of a new worm or the loss of key personnel can all drive up the cost of messaging unexpectedly.

Among the factors that are serving to drive up the costs of messaging are:

- The need to overspecify email systems to handle mail volume spikes from denial-of-service attacks, dictionary harvest attacks and other threats.

- Deploying more servers, appliances, storage systems, bandwidth and other hardware and software to deal with growing volumes of spam, viruses, spyware and other problems.

- Deploying content-scanning systems that can monitor outbound email, instant messages, blog posts and other content for potential policy violations, data breaches and other risks that could pose a threat to an organization.

- Deploying technology to improve the reliability and resiliency of messaging systems in order to provide as much uptime as possible.

- Hiring IT personnel knowledgeable enough to maintain the systems in-house and training them on future hardware and software releases.

- Patching various servers, appliances and other on-premise systems and managing the unexpected problems that may arise from a patch's impact on another system. This becomes more difficult in larger companies, particularly those that have a geographically distributed infrastructure.

Based on a major study of mid-sized and large organizations that Osterman Research conducted during June 2007, we forecast increasing penetration of hosted and managed services in the North American market through 2009.

- Implementing business continuity and disaster recovery capabilities to ensure that an organization can recover as quickly as possible from any of the variety of problems that can bring down its messaging capability.

- Adding more storage and storage-related systems in order to accommodate the rapidly growing quantity of messaging system content.

- Deploying e-discovery and regulatory compliance capabilities that are designed to mitigate an organization's risk from non-compliance with the growing array of legal and regulatory requirements focused on messaging and other electronic content.

- The need to deploy encrypted messaging capabilities.

- Deploying and managing mobile messaging platforms and supporting users of these devices.

In short, providing messaging services is expensive, somewhat unpredictable and it will be more expensive in the future.

More Organizations are Considering Hosted and Managed Services

During the past several years, the market for hosted and managed messaging services has increased substantially. Osterman Research anticipates that the market will continue to grow at a healthy pace as an increasing proportion of organizations realize the benefits of allowing specialist providers to manage some or all of the corporate messaging infrastructure.

It is important to note that many organizations are finding benefit in using a hybrid approach, in which some functions are managed using on-premise capabilities, while some functions are provided by a hosted or managed solution. Using a hosted perimeter email protection service, for example, can eliminate most spam before it ever hits the corporate network, eliminating much of the storage and bandwidth requirement for on-premise systems.

Hosted and managed messaging services are clearly a growing market, but one that is characterized by very strong opinions from both proponents and detractors of the hosted/ managed paradigm.

Market Overview

Based on a major study of mid-sized and large organizations that Osterman Research conducted during June 2007, we forecast increasing penetration of hosted and managed services in the North American market through 2009 as shown in the following table. It is important to note that the last three offerings in the table may be included as part of a hosted or managed email service, or they may be used to supplement on-premise messaging capabilities.

Percentage of North American Organizations That Will be Using a Hosted or Managed Solution

Messaging Function	2007	2008	2009
Hosted email services (e.g., hosted Exchange)	13%	14%	19%
Anti-virus and anti-spam	22%	29%	32%
Email retention and archiving	14%	24%	31%
Wireless/mobility services	21%	21%	27%

Hosted and managed messaging services are clearly a growing market, but one that is characterized by very strong opinions from both proponents and detractors of the hosted/managed paradigm.

Proponents of Hosted and Managed Messaging

Proponents of hosted and managed messaging services argue that it makes sense to let a specialist organization manage these services, since these vendors can achieve economies of scale that many firms, particularly smaller ones, could never hope to achieve. To help ensure messaging continuity, these providers operate multiple data centers that are physically secure, have diesel backup generators, use redundant communications links, provide a full complement of staff on a 24x7 basis, create redundant copies of data for storage at geographically separated sites, and offer other capabilities that are fully managed.

Given the importance of messaging functionality to virtually all organizations, deciding on the best way to manage this critical corporate asset is not a trivial decision.

For messaging security services, anti-virus signatures are updated continually, multiple anti-virus and anti-spam capabilities are typically employed, and these scanning engines are tuned and updated by the security vendor, allowing customers to leverage the security vendor's expertise. Further, managed security providers can spool email in case their customers' primary email servers go down, or they can provide more robust disaster recovery services, enabling business continuity and disaster recovery for their customers.

For messaging archiving and data management services, service providers offer extremely high levels of reliability and so capture all messaging content, even when on-premise systems are down, allowing total compliance with corporate retention policies.

For other types of services, such as wireless/mobility services, hosted and managed services provide very high reliability even when the primary corporate system is down. This allows mobile employees to communicate even when the primary in-house messaging system is unavailable.

In a hosted environment small and mid-sized businesses (SMBs) now have the opportunity to utilize the features and functionality of best-of-breed messaging services at a low per-user price. Previously, these applications have been accessible only to Fortune 500 companies because the latter have the economies of scale to implement these capabilities.

Detractors of Hosted and Managed Messaging

Those who oppose the use of hosted and managed services argue that messaging is a core and fundamental skill set that must be maintained in-house for a variety of reasons.

They argue that internal management of the messaging infrastructure, including messaging security, is less expensive than if a managed service provider is employed for this purpose. The corporate message store, which represents the primary content store for most organizations and its most important data asset, is simply too valuable to be managed by a third party at a remote data center. They further argue that security of the messaging repository requires that it be managed behind the corporate firewall. Further, newer software-based and appliance offerings from a variety of leading and other vendors require little investment by IT staff for activities like deployment, upgrades, patch management and the like, and so the cost of managing a messaging system internally is being driven lower over time.

A hosted or managed messaging service – whether used for messaging security, archiving, encryption or other tasks – can free IT staff members from the relatively mundane tasks associated with managing internal systems.

Who's Right?

Given the importance of messaging functionality to virtually all organizations, deciding on the best way to manage this critical corporate asset is not a trivial decision. Because email is the primary communications and file transport mechanism for virtually all organizations, managing this capability efficiently and properly is becoming increasingly critical. Also, as instant messaging, Web collaboration, VoIP and other capabilities become more widely used in the workplace, the decision about how best to manage a messaging infrastructure will become ever more important.

Why Consider Hosted and Managed Services?

Why should your organization consider the use of a hosted or managed messaging service? There are a variety of reasons to at least consider using such services, some of which, as discussed below, may provide important benefits compared to current, internal methods of managing these capabilities.

More Efficient Use of IT Resources

One of the fundamental issues that should be considered by any organization – but one that often is not – is that of the opportunity cost of IT staff members. Most CIOs and IT managers would agree that finding and retaining highly qualified IT staff is not an easy task, particularly in a good economy when competition for good IT talent is robust. Consequently, in-house IT staff should be used in a way that allows them to provide maximum benefit to their employer, while at the same time affording them a satisfying work experience that will motivate them not to move elsewhere.

A hosted or managed messaging service – whether used for messaging security, archiving, encryption or other tasks – can free IT staff members from the relatively mundane tasks associated with managing internal systems. This allows them to be deployed on initiatives that provide more differential value to the organization and that can result in greater job satisfaction. For example, if an IT staff member can manage a messaging capability extraordinarily well, he or she provides some level of value to the enterprise. However, if that staff member spent the same amount of time integrating customer-facing IM capabilities into the company's technical support system, it is very likely that much greater value could be realized from the same level of effort, not to mention that the latter project would likely provider greater job satisfaction.

Many decision makers do not consider the complete cost of providing messaging functionality within their organization. They often underestimate the total amount of labor required to manage the system, the disruptive impact of outages and other unforeseen events on other activities, the true costs of capital expenditures, the unexpected costs of managing a system, and so forth.

In a broader context, the use of hosted or managed services allows an organization to focus more on its core business rather than devote resources to managing its messaging infrastructure. Just like the vast majority of organizations do not generate their own electricity or drill their own wells, organizations should consider messaging to be a utility service that a specialist provider may be better equipped to manage.

Potentially Lower and More Predictable Cost of Ownership

There is a widely held perception that internally managed messaging systems are less expensive to deploy and operate than hosted or managed services. While in some cases that perception is accurate, very often it is not for two reasons:

- First, many decision makers do not consider the *complete* cost of providing messaging functionality within their organization. They often underestimate the total amount of labor required to manage the system, the disruptive impact of outages and other unforeseen events on other activities, the true costs of capital expenditures, the unexpected costs of managing a system, and so forth.

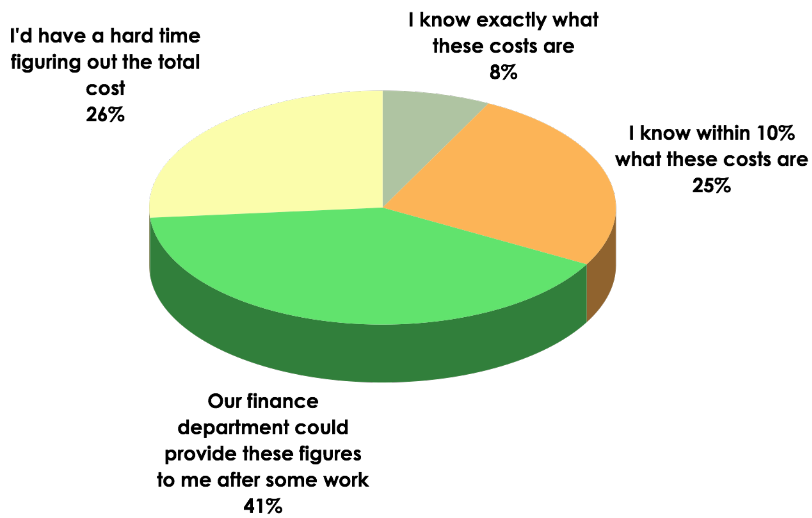
- Second, most decision makers simply do not know what it costs their organization to provide messaging services. In a June 2007 Osterman Research survey, for example, we asked messaging decision makers the following question:

  'How closely do you track the total cost of your messaging system, including licenses, hardware

depreciation, maintenance/support contracts, personnel, backups, etc?'

Their responses are shown in the following figure.

"How closely do you track the total cost of your messaging system?"



One of the benefits of using a hosted or managed messaging service is that it allows an organization to adopt a granular approach in how it manages its messaging capabilities.

Flexibility of Deployment Options

One of the benefits of using a hosted or managed messaging service is that it allows an organization to adopt a granular approach in how it manages its messaging capabilities. For example, an organization that uses appliances to protect its infrastructure from spam and viruses can adopt a hybrid approach in which it uses a hosted reputation service to block the bulk of spam and viruses entering the network, thereby dramatically reducing the impact on internal storage and bandwidth, but continue to use its internal appliances for spam and virus filtering. An organization may decide to manage its own email servers for employees at a corporate headquarters, but use a hosted messaging service for employees in field offices. An organization may want to supplement its primary internal archiving system with a hosted solution for remote employees.

In short, hosted and managed solutions allow organizations to exercise a great deal of flexibility in how they manage their messaging infrastructure, supplementing or replacing internal capabilities quickly and painlessly.

Extending the Life of Existing Email Solutions

Related to the point above is that hosted and managed services allow an organization to extend the useful life of an in-house messaging solution. For example, if a company has reached the maximum capacity of its email filtering appliances because of rapidly growing spam volumes, it could implement a hosted email security service that would dramatically reduce the amount of incoming traffic and thereby allow new investments in internal hardware to be delayed or, possibly, avoided.

One of the fundamental benefits of a hosted or managed service is the speed with which services can be deployed. For example, deploying new hosted or managed services typically requires no more than the change of an MX record or a change in the configuration of messaging clients.

For example, the enormous increase in the volume of spam during 2006 driven by botnets and the use of image spam resulted in many on-premise solutions reaching their maximum capacity. Faced with such a predictament, an organization could use a hosted service to supplement its internal capabilities and thereby preserve its investment in the on-premise solutions it has deployed, thereby extending the useful life of these systems. This would allow an organization to start using hosted services in a supplementary role, allowing the organization to determine whether or not hosted or managed services would fit into their future plans.

Disaster Recovery for Customer Systems

Most hosted and managed service providers offer some level of disaster recovery. For example, most hosted security providers will spool email for at least several days in the event that a customer's email servers go down. This ensures that email sent to the customer will not be bounced back to the sender and that email will continue to be received until the customer's email servers are restored.

Business Continuity

Even more important, however, is some providers' provision of business continuity capabilities on a number of levels, including backup email systems, continued archiving of messaging system content during outages and other services. This allows messaging capabilities to remain active regardless of problems that may occur at their customers' sites. Using such a business continuity service will allow a business to recover much more quickly from a power outage, a natural disaster or some other disruptive event.

Rapid Deployment of Services

One of the fundamental benefits of a hosted or managed service is the speed with which services can be deployed. For example, deploying new hosted or managed services typically requires no more than the change of an MX record or a change in the configuration of messaging clients. Adding new users to an existing service typically requires just a phone call, completion of an online form or it can be accomplished through a Web-based administration tool. Hosted and managed services make it easy to add or subtract small numbers of users, or even entire business units, from a particular service, which is particularly advantageous when integrating merged or acquired companies into a messaging infrastructure.

Maintenance of the Most Current Capabilities

Hosted and managed service providers typically update their capabilities on a near real-time basis. For example, a hosted or managed archiving services provider can implement a new retention policy immediately for all of its customers. A provider of anti-virus and anti-spam filtering services will typically update its signatures on a continual basis. Further, service providers typically deploy a broader range of leading technologies and offer expertise that might not otherwise be available or affordable to their customers, particularly their smaller customers.

Hosted and managed providers' data centers are staffed on a 24x7 basis and that capabilities are monitored around the clock. This means that problems can be dealt with more rapidly than is feasible in many on-premise deployments.

Many Providers Offer a Complete Range of Services

One of the more important advantages of a hosted or managed service is that many can offer a complete range of services, including Exchange, Notes, GroupWise, POP, IMAP, Webmail or other messaging services; message filtering for spam, viruses and malware; archiving of inbound and outbound content; encryption; email continuity services in the event of a failure in the primary email system; compliance with regulatory and e-discovery requirements; IM filtering; and data migration services. Alternatively, a single service can be employed initially and other services added as corporate requirements change.

Very High Reliability and SLA Commitments

Hosted and managed services vendors can typically invest more resources into their infrastructure than individual organizations can afford and so provide extremely high levels of reliability. Because most hosted and managed service providers maintain very robust data centers, they can typically offer very high levels of reliability and Service Level Agreements (SLAs) that would be difficult for internally managed systems to match. This allows customers to focus on providing services that offer greater value to their enterprise with the assurance that messaging functionality will be available virtually 100% of the time.

It is also important to consider that hosted and managed providers' data centers are staffed on a 24x7 basis and that capabilities are monitored around the clock. This means that problems can be dealt with more rapidly than is feasible in many on-premise deployments.

Excess Mail Capacity to Handle Unforeseen Problems

Hosted and managed messaging providers typically have much more excess mail capacity than an organization that manages its own on-premise email infrastructure. This is simply because it is not economically feasible for the latter to deploy enough excess capacity to maintain in the event of a crippling, large-scale spam attack, for example. Excess capacity deployed for a large number of customers is simply more economically feasible for a service provider.

Minimizing the Impact on the Internal Network

Among the chief benefits offered by a hosted or managed service is that migration to new messaging systems is made much easier.

Because such a high percentage of malicious spam is not directed to valid email addresses, using a perimeter-based service offloads the majority of email processing (and associated email network traffic) before it ever reaches the customer's network. On-premise solutions, regardless of how robust, still must react to spam after it has entered the network, placing additional demands on storage and bandwidth.

Smooth Migration to New Messaging Platforms

Among the chief benefits offered by a hosted or managed service is that migration to new messaging systems is made much easier. For example, while migrating from Microsoft Exchange 2003 to Exchange 2007 will offer a number of benefits because of the improvements designed into the latter, migrating to the system using internal resources is a significant undertaking because of the need to implement 64-bit hardware, the deployment of new server software, the time required to learn the new server roles in Exchange 2007, etc. Using a hosted or managed service provider that will migrate to the next-generation messaging capability for its customers is substantially easier and less painful than an internal migration.

Access to Expertise That Might Not Otherwise be Available

Specialist providers of hosted and managed services can often provide expertise, such as professional services for migration, that might not otherwise be available. This is particularly advantageous for smaller companies.

Good Physical Security

One of the concerns that many prospective customers of hosted and managed services express is focused on the physical security of their data when managed by a third party. Most of the leading providers of hosted and managed services maintain very secure physical facilities, including video surveillance, multiple access points using two-factor authentication, tracking and monitoring tools and other systems that protect their customers' data from being compromised. Measures, such as SAS 70 audits or WebTrust certification, can provide an extra level of assurance for customers.

There are a number of questions that any prospective customer of hosted or managed messaging services should ask of a vendor they are considering to provide these services. There are also several questions that organizations should ask themselves before they use a third party to provide messaging services.

Privacy Guarantees

Some organizations are concerned with the privacy of their messages when routing them through a hosted or managed service. However, messages are generally automatically processed by the system without any human intervention. Messages are normally stored only to benefit the customer, such as through quarantines or for disaster recovery measures.

Vendor Independence

Using a hosted or managed service provider can make a customer of the service less dependent on a particular vendor's technology, and so will minimize the impact of legacy systems on future technology or vendor choices.

Questions to Ask of Your Internal Management and Hosted and Managed Service Vendors

There are a number of questions that any prospective customer of hosted or managed messaging services should ask of a vendor they are considering to provide these services. There are also several questions that organizations should ask themselves before they use a third party to provide messaging services.

The following offers a good starting point for questions that should be asked, although it is important to note that not all of the questions will apply to all types of hosted and managed services or to all vendors.

Questions to Ask Your Internal Management

- **Is messaging a core competency that we want to retain in-house?**
- **Do we have enough IT staff members, or will we be able to recruit enough IT staff, to manage our current and planned messaging capabilities, as well as other IT initiatives from which we could derive competitive advantage?**
- **How much will it cost us to deploy all of the new capabilities that we will need for archiving, encryption, security and other capabilities over the next few years?**
- **What is the total cost of managing our messaging infrastructure, including whatever opportunity costs may be associated with managing our systems internally?**
- **How much will it cost us to migrate to a new messaging system when such a migration is required?**

What architectural capabilities ensure that there is neither delay in message delivery nor any additional, unnecessary risk incurred by storing a copy of the message?

Capabilities Offered

- **What capabilities does the vendor offer today and what capabilities are on the vendor's roadmap? These services might include:**
  - Hosted messaging services
  - Archiving
  - Online backup
  - Encryption
  - Unified messaging
  - Mobility
  - Web conferencing and other collaboration capabilities
  - Instant messaging services
  - Active Directory integration
  - Other capabilities
- **Which email servers / platforms are supported?**
- **Which versions of email servers and platforms are supported?**
- **Which email clients are supported?**
- **Does the vendor provide real-time scanning of Web traffic for viruses and malware?**
- **Does the vendor support or require any on-premise hardware or software?**
- **How many data centers does the vendor operate?**
- **What type of data center is provided?**

- **What migration tools and services are offered?**
- **How often are upgrades provided?**
- **What reporting capabilities are provided?**
- **Does the vendor have premier support agreements with their technology partners?**
- **Are disaster recovery services offered if the customer system is unavailable?**

Architectural Considerations

What Service Level Agreements does the vendor offer?

How much system downtime has the vendor experienced during the past month? Six months? Year?

- **What architectural capabilities ensure that there is neither delay in message delivery nor any additional, unnecessary risk incurred by storing a copy of the message?**
- **Does the vendor perform full, nightly backups of customer data?**
- **Is the vendor using their own technology or another vendor's?**
- **Does the vendor use the application developer's platform or one developed by another vendor?**
- **Will the vendor's infrastructure scale to meet future requirements?**

Reliability

- **What Service Level Agreements does the vendor offer?**
- **How much system downtime has the vendor experienced during the past month? Six months? Year?**

Security

- **How secure is the infrastructure?**
    - What controls are in place to control access to customer data?
    - What intrusion detection systems are in place to protect the vendor's data center?
    - What redundant capabilities are in place, including backup generators, redundant telecommunication links, etc.?

Data Management

- **Does the vendor host customers on shared and/or dedicated servers?**

- **In what countries will the data be stored?**

Services Offered

- **How integrated are the services? For example, if the vendor offers IM and archiving services, are instant messages archived?**

- **Does the vendor provide other complementary products and services?**

- **Does the vendor provide both shared and dedicated servers?**

How long has the vendor been in the specific business for which they are being considered (security, archiving, complete messaging services, encryption, etc.)?

- **What customer support services are offered?**
  - What are the technical support hours?
  - Does the vendor offer live 24x7 support?
  - Where are the technical support staff based?

- **Does the vendor provide a dedicated Technical Account Manager after the sale?**

- **Can customers outsource DNS, Web sites and applications, and email to the vendor?**

- **Can customers resell the service? If so, what features are offered to support reselling the service (white labeling, reseller's console, etc.)?**

- **What provisioning tools are provided?**

- **Does the vendor provide automated Web services?**

- **How flexible is the provider in offering various services?**

- **Are policies across all communications channels unified and managed in a single, integrated Web console?**

- **Is distributed administration of the service supported (e.g. regional administrators with control over only a subset of the users)?**

- **Are end-users able to manage their own configurations and settings?**

- **Are messages stored on disk and then forwarded to the end customers?**

Vendor-Specific Questions

- **Is the vendor financially viable?**
- **How long has the vendor been in the hosting or managed services business?**
- **How long has the vendor been in the specific business for which they are being considered (security, archiving, complete messaging services, encryption, etc.)?**
- **How many customers does the vendor support and how has this changed?**
- **What size and type of customers does the vendor support?**
- **Can the vendor provide referenceable customers that are similar to our organization?**
- **What email volume does the vendor support and how has this changed?**
- **What certifications have the vendor's employees earned? How many?**
- **What corporate certifications or audits are offered?**

There are a number of issues to consider for organizations that are evaluating hosted or managed service providers. Due diligence in evaluating the hosted/managed option can yield significant benefits and will be worth the effort.

Migrating Away from the Vendor

- **What are the termination conditions?**
- **How can data be exported / migrated to an on-premise solution or to another hosted provider?**

Other Questions

- **Does the vendor offer professional services?**
- **What is the experience level of the vendor's professional services team?**
- **Who will own our data?**

Summary

Messaging is a mission-critical function for virtually all organizations and it is becoming more so. However, managing messaging systems is becoming more difficult and more demands are being placed on organizations to manage these systems effectively.

One option that can help organizations to manage their messaging systems more effectively is the use of hosted or managed services to provide some or all of the services they require. Although many corporate decision-makers balk at the prospect of using a hosted or managed service because they perceive these services to be more expensive, less secure or offer less control compared to on-premise systems, Osterman Research has found that these fears are, in almost every case, unfounded. On the contrary, hosted and managed services often are less expensive than on-premise systems, provide better security than has been deployed in most companies, and offer at least as much control over the data.

There are a number of issues to consider for organizations that are evaluating hosted or managed service providers. Due diligence in evaluating the hosted/managed option can yield significant benefits and will be worth the effort.

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