Nash Networks Inc
IT Consulting

Serious about technology. Serious about your business.

"Making every IT dollar count!"

Part 2, February 2009

The Economics of E-mail

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Executive Summary

- "E-mail is the single most important tool for business communication."

- For many organizations, when their e-mail stops, their ability to conduct business stops too. About 80% of the intellectual property of a typical company passes through its e-mail server.

- There's a 72% chance of an e-mail failure in any company each year, lasting an average of 62 hours.

- E-mail is set to grow by 68% in the next 5 years. And legal discovery is a growing consideration - making e-mail management more important.

- The indirect costs of e-mail - mainly loss of productive time - are likely to be overlooked, even though they can be high.

- Stand-alone e-mail is inexpensive and simple. The disadvantages of free services (e.g. Gmail, hotmail) for businesses outweigh the benefit of the small cost savings.

- Collaborative e-mail is typified by Microsoft Exchange, and includes communications features such as shared calendars, tasks and contacts; smartphone and Outlook integration; and central management and storage.

- Exchange servers can be maintained in-house or housed in a data centre. Shared hosted Exchange means renting space on a hosted server that includes many other accounts.

- Cost comparisons for hosted vs in-house Exchange are often published by Exchange hosting providers, and tend to be distorted. *Caveat emptor!*

- Shared hosted Exchange can be considerably more expensive over time than in-house, which also allows control and flexibility.

- Hosted Exchange (shared or not) is an excellent option for businesses with branches in different geographic locations, and shared hosted Exchange is good for very small companies that can't justify the cost of an in-house server.

- Google Apps is an inexpensive alternative to Exchange, but has several disadvantages and doesn't work as well.

E-mail Is Mission-Critical

"E-mail is the single most important tool for business communication."

For many organizations, **when their e-mail stops, their ability to conduct business stops too**.

About **80% of the intellectual property** of a typical company **passes through its e-mail server**.

E-mail Failures Are Common

There's a **72% chance of an unplanned e-mail outage** in any company every year and 24% chance of a planned outage. Most companies expected e-mail to be back up within 2 hours, but in reality the average is **62 hours**, with most outages lasting **4 to 24 hours**.

**Duration of Email Outages
(Source: Dell MessageOne)**

24-48 hrs
16%

1-4 hrs
29%

> 48 hrs
15%

12- 24 hrs
20%

4-12 hrs
20%
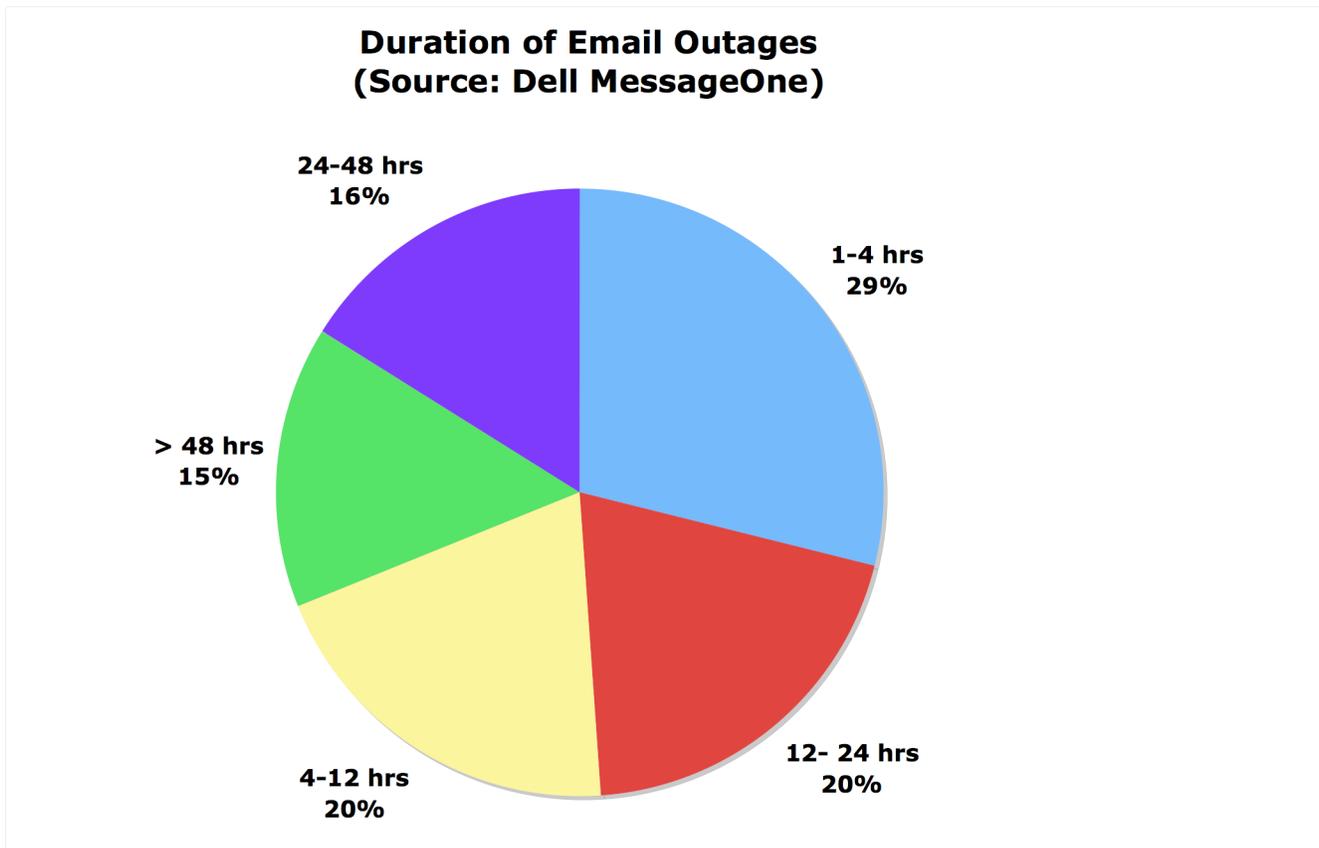
Most e-mail outages are caused by problems at **data centres** or by **infrastructure** issues - **power failures** are a common cause. Exchange and hardware problems are also common, underlining the importance of a properly administered and maintained server.

Causes of Email Outages
(Source: Dell MessageOne)

7%

11%

41%

18%

23%

- Data Centre/Infrastructure
- Exchange/Active Directory
- Hardware
- Internet/Connectivity
- Storage/Database
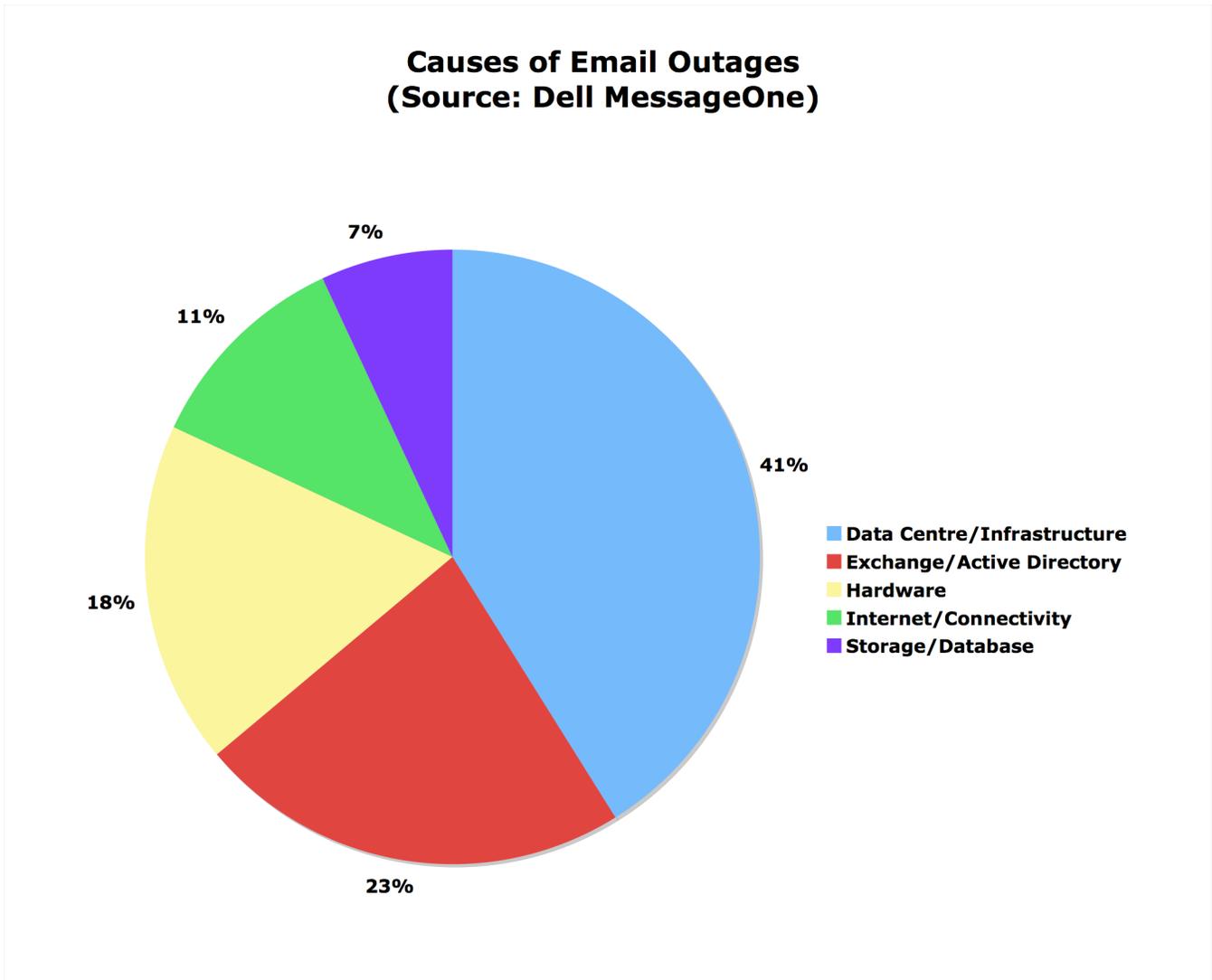
E-mail Storage and Archiving Are Becoming More Challenging

➢ **E-mail growth is exploding.** E-mail volumes are growing rapidly and constantly – they are estimated to grow by **68%** over the next 5 years. This has significant implications for **archiving, backup, storage and retrieval**.

More e-mail also means **slower back-up, migration and recovery**, which can be mitigated by appropriate policies and active management.

➢ **Legal discovery is a growing consideration.** E-mail is increasingly used as evidence in court proceedings. It needs to be stored and archived accordingly, following clear, defensible company policy.
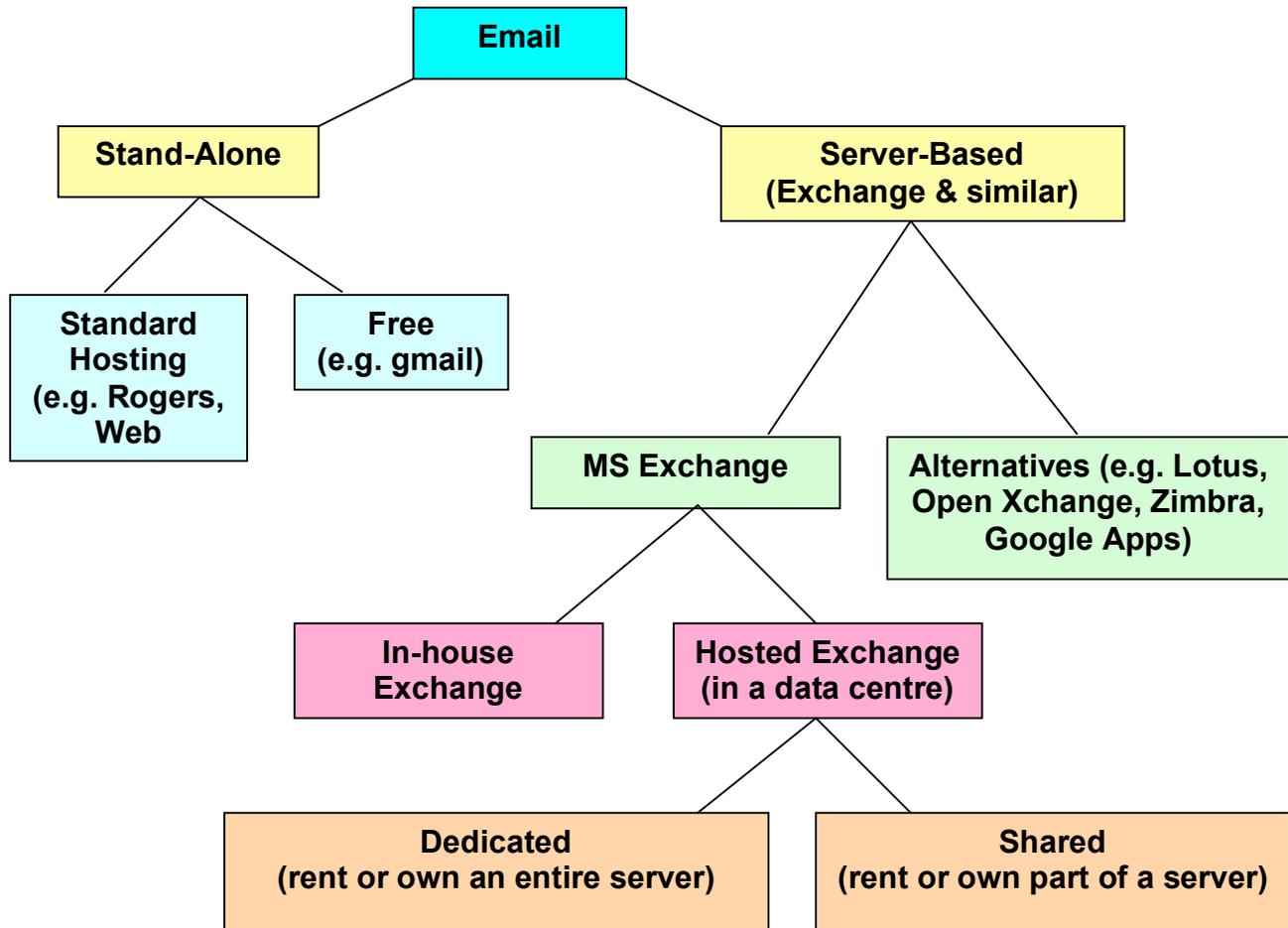
What Does E-mail Cost?

Like other business tools, e-mail has **direct and indirect costs**. The indirect costs (mainly loss of productive time) are likely to be overlooked, even though they can be considerably higher than direct costs.

E-mail costs are **virtually impossible to generalize**, because one is comparing apples with pears with oranges. Storage and archiving are critical in some organizations, less so in others. Stand-alone e-mail is much less expensive than Exchange. Capital costs for enterprise-level Exchange are much higher than for small businesses. And so on…

It's difficult to get even a general sense of comparative costs from vendor websites, because **providers push their own agendas**. Hosted Exchange providers, for example, classically underplay their own costs and inflate the costs of in-house Exchange (see further).

E-Mail Decision Points

It's well worth taking few minutes to think about available e-mail options, costs and benefits, and whether your organization needs to make any changes in its e-mail structure. This chart shows the main options.

```
                              Email

        Stand-Alone                      Server-Based
                                      (Exchange & similar)

  Standard        Free
  Hosting      (e.g. gmail)
(e.g. Rogers,                      MS Exchange       Alternatives (e.g. Lotus,
   Web                                               Open Xchange, Zimbra,
                                                     Google Apps)

                          In-house      Hosted Exchange
                          Exchange      (in a data centre)

                    Dedicated                      Shared
              (rent or own an entire server)  (rent or own part of a server)
```

The rest of this paper deals with each type of e-mail listed above –
general information, pros and cons, and the economics of each.

Simply go to the option that interests you to find out more.

Stand-Alone Vs Collaborative E-Mail

Stand-alone e-mail is the classic kind. E-mail come in, it goes out. That's it!

Collaborative e-mail puts a server running Microsoft Exchange (or similar) at the centre. E-mail comes in and goes out through this central server, which provides additional sharing and communications features (see section on Collaborative e-mail below).

Pros and Cons of Stand-alone E-mail

Pros	Cons
➢ Simple ➢ Inexpensive	➢ No shared resources or extra features ➢ Setting up new users can be time-consuming ➢ Vendor support often limited ➢ Difficult to implement policies (e.g. backup, archiving) ➢ No central storage

Which Type Of Stand-Alone?

Standard Hosting (e.g. Rogers, Web Hosting Provider)

This is the most common type of e-mail hosting. E-mail hosting is inexpensive or provided free with other services. Spam filters and security are included.

There are some downsides:

➢ **Mailboxes are usually small** so users need to download e-mail onto their PCs, which means there is often **no back-up**.

➢ Providers can suddenly **change their policies**, resulting in more spam (or legitimate-mails being misidentified as spam), or other annoyances.

The Cost Of Free E-Mail (e.g. Yahoo, Gmail, Hotmail)

These accounts might be appropriate for personal e-mail, but business users should think carefully about the implications of free services before signing up (see cons below).

Pros and Cons of Free E-mail Services

Pros	Cons
➢ Free or inexpensive ($50/user/year for Google Apps) ➢ Accessible from anywhere ➢ Usually include storage, spam filter, instant messaging, virus protection	➢ Low commitment to user support ➢ Reliability concerns. Your account can just disappear, with no recourse. ➢ Limits to mailbox sizes, limits on how many e-mails you can send out per day. ➢ Privacy concerns. ➢ Login confusion: It's easy to confuse personal and business logins and end up with the wrong information in the wrong places ➢ Corporate branding and image

Remember: **If you use stand-alone e-mail, free e-mail will save you a few dollars a month –** not hundreds, not thousands. In our book, it's not worth it, considering the downside.

Collaborative E-Mail

What Is It?

Collaborative e-mail provides **central storage** of information (e-mail, files, other); **support for mobile devices**; **shared calendars, tasks and contacts**; and **Web-based access**.

The market leader is **Microsoft Exchange**, rivalled only by **Lotus Notes**.

Pros And Cons Of Collaborative E-Mail

Pros	Cons
➢ Able to share information across an organization	➢ High direct costs – hardware, software, licences, support
➢ Central storage of e-mail	➢ Professional maintenance essential
➢ Easy to enforce policies	
➢ Dealing with multiple IDs is easier (e.g. one person with more than one e-mail address)	
➢ An assistant can make appointments (etc.) for other users	
➢ Exchange and Lotus Notes integrate well with most mobile devices	

Hosted Exchange Vs In-House?

Companies wanting Exchange have four main options:

➢ Maintain their own **Exchange server in-house**

➢ An **in-house Exchange server with outsourced management**

➢ Rent or own space on a **shared hosted Exchange server** in a data centre

➢ Rent, lease or own a **dedicated hosted server** in a data centre.

Hosted Exchange is becoming popular as smaller businesses start demanding the features that Exchange offers. These companies want the advantages of Exchange without the capital, licensing and support costs that go with it. Most companies that offer hosted Exchange sell slices of space on shared servers (virtualized into many "compartments"), which can host thousands of other users.

What's More Cost-Effective?

This is where it gets a bit complicated! A whole lot depends on the reasons for deploying Exchange, the size of the company, its composition and its specific needs.

➢ In-house Exchange comes with up-front costs (hardware, software, licensing, installation) plus ongoing licencing and support costs, but may still cost less over time than hosted Exchange (see table below).

➢ The costs of hosting climb considerably when you add "extras" like adequate bandwidth, big enough mailboxes (most packages start at 250MB), e-mail migration and BlackBerry access. Extras like Sharepoint cost still more. Then there's the cost of lost productivity through slow connections, hosted server downtime or, in worst-case scenarios, outright data loss.

➢ Cost comparisons on hosted Exchange service provider sites must be viewed with scepticism because of the vested interests behind them. The following table shows this clearly:

**In-House Costing Comparison:
Hosting Provider vs. Nash Networks**

Year	In-house Exchange	
	Hosting Provider Published Costs*	**Nash Networks Estimated Costs****
1	USD $100,000	USD $12,000 to $20,000
2	USD $85,000	USD $2,400 to $8,000
3	USD $85,000	USD $2,400 to $8,000
TOTAL COST (3 YEARS)	**Hosting Provider USD $270,000**	**Nash Networks USD $16,800 to $36,000 (CAD $21,000 to $45,000)**

**Hosted Exchange Costing Comparison:
Hosting Provider vs. Nash Networks**

Year	Hosted Exchange	
	Hosting Provider Published Costs*	**Nash Networks Estimated Costs****
Per year	USD $7,200	USD $8.640 to $14,400
TOTAL COST (3 YEARS)	**Hosting Provider USD 21,600**	**Nash Networks USD $25,920 to $43,200 (CAD 31,104 to 51,840)**

We think our in-house figures are much more realistic for small and medium companies, and our local colleagues agree.

* Source: http://myhosting.com/Exchange/Compare-Costs.aspx - figures published on at least 2 other provider sites are similar.
** Using current exchange rate USD:CAD 1.2:1

Why Do These Figures Differ So Dramatically?

➢ For in-house Exchange, the hosted Exchange provider has given costs for a **very sophisticated enterprise-level set-up**, with numerous servers, expensive dedicated backup and full-time staff.

➢ The provider's **licensing** costs are for Windows 2003 Server and Exchange 2007, which require separate licences, while our figures are for SBS, which includes Exchange 2003.

➢ **How did we reach our numbers?** We've given an example of a typical proposal we'd provide to purchase, set up and manage an Exchange and BES server, then added on thousands of dollars for contingencies to get to the second number.

➢ For hosted Exchange, the **provider costs work out to USD $14.70 per user per month**. We've used **USD $24 to $40 per user per month**, using more realistic pricing that would include all the "extras" clients need for a usable account with enough storage and bandwidth.

Also Bear In Mind That…

Exchange and Outlook were designed to connect using a fast and consistent **local** network. In a typical organization, **more than 80% of e-mail is sent between employees of the same company** – so bandwidth costs are far lower if Exchange stays in-house. Many hosting companies use the Internet for connectivity, which means the connection is too slow.

Hosted Exchange makes enormous sense for small organizations whose staff are scattered in different geographic locations. It also makes sense for very small organizations that truly need Exchange for business-critical reasons. Organizations should cost the exercise carefully before deciding and factor in other priorities (e.g. security, disaster recovery, privacy) as well as direct costs.

Comparison of In-house vs Hosted Exchange

	In-house Exchange	**Typical Hosted Exchange**
Capital costs	Relatively high	None
Licensing costs	Yes	None
Monthly cost after setup	Relatively low with a properly managed server	Relatively high
Number of users	Costs only somewhat impacted by user numbers	Costs directly proportional to number of users
Upgrade costs	Yes	No
Bandwidth	Standard	Extra / faster often needed
Effect of network outage	Can still send e-mail within organization	Unable to send or receive any e-mail
Support and management costs	Moderate	None
Control	Complete control over environment, policies, settings	No control
Security	Control security	No control
Flexibility	High	None
Back-ups	Controlled internally	Depend on provider
Archiving	Controlled internally	Depends on provider
Uptime	Depends on internal support and infrastructure	Depends on provider
Disaster recovery	Controlled internally	Depends on provider

Choosing a Hosting Provider

There's an explosion of hosting providers out there, all promising the earth. Whatever you do, **don't entrust your organization's e-mail to just anyone.**

Look for a **good-sized, reputable, financially healthy** provider with a track record and **excellent support**.

Minimum standards to expect from a hosting provider

➢ **Minimum 99.999% uptime** (5 nines are better) – 99.9% might sound good but it means that e-mail can be down for 526 minutes or almost 9 hours a year!

➢ **Excellent backup**

➢ **Effective network security**

➢ **Secure physical location with backup power, redundant network connections, 24x7 onsite support**

➢ **Competent** (and available!) technical **support staff**

Some other questions to ask

➢ The **actual cost** of your accounts, based on your **actual requirements.**

➢ What **liability** they will accept if they lose your e-mail or if there is significant downtime that impacts your business?

➢ Where is the data physically stored?

➢ Do they have redundant servers in a second location?

➢ Do they offer archiving and disaster recovery? (And what do they cost?)

➢ What is the cost of migration from your existing system and how much disruption will this involve?

Alternatives To Microsoft Exchange

Exchange's chief competition in the medium and large business arena is **Lotus Notes**.

Open-source alternatives to Exchange include Zimbra, Open Xchange, Scalix, Citadel and OpenGroupware. Then there's the "alternative alternative", **Google Apps**, which appears to be gaining traction.

The open-source alternatives are frequently quite expensive and may offer relatively little in terms of cost-savings, especially when support is taken into account. Other downsides:

➢ They often integrate poorly with Outlook

➢ Integration with the BlackBerry is only moderate and there is no integration with many other mobile devices

➢ Overall functionality limited compared with Exchange

➢ Vendor support variable.

Google Apps is free or inexpensive ($50/user/year) but other than that has the **same disadvantages listed above** for open-source options. Other negatives:

➢ Privacy concerns

➢ Users have no control (e.g. of backups)

➢ Constantly changing (permanent beta version)

➢ Minimal user support

Keep It In Perspective

Decision-makers must always **balance the costs of a system versus the benefits it brings to the business and the end users.**

Ultimately, many IT decisions you make will not be due to cost-avoidance but rather on the basis of **business advantage.**

Remember: **"Cost is what you pay. Value is what you get."** (Warren Buffett).

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Comparison Between Types of Exchange; Hosted Provider Costs vs Nash Networks Costs

Exchange Option	Year	Hosting Provider Published Costs	Nash Networks Estimated Costs
In-house Exchange server	1	USD $100,000	USD $12,000 to $20,000
	2	USD $85,000	USD $2,400 to $8,000
	3	USD $85,000	USD $2,400 to $8,000
TOTAL COST (3 YEARS)		Hosting Provider USD $270,000	Nash Networks USD $16,800 to $36,000 (CAD $21,000 to $45,000)
Shared hosted Exchange	Per year	USD $7,200	USD $8.640 to $14,400
TOTAL COST (3 YEARS)		Hosting Provider USD 21,600	Nash Networks USD $25,920 to $108,000 (CAD 31,104 to 129,600)

About Nash Networks

What we do
We manage and maintain IT networks for small businesses.

Philosophy
We understand that every business is unique, with unique technology needs. We provide and support the mix of technology that's right for each client.

We aren't a one-solution shop. There's no such thing as one-size-fits-all in technology (or socks).

Skills
We know a lot about a lot: Windows, Unix, Macintosh, programming, connectivity, VoIP, virtualization, security, disaster prevention … and much more.

People
Our consultants are all university-educated, experienced, highly skilled and excellent problem-solvers.

Vendors & subcontractors
We recommend and use only quality vendors whom we know and trust.

Technology
We use state-of-the-art monitoring, remote support and backup tools.

We constantly update and upgrade our tools and capabilities - but where it makes sense, we continue to use tried and trusted, older technologies. We're not driven by fads.

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