Mapping Your IT Roadmap

What are the first two questions you ask yourself when creating a map?

You decide to create a map to get you from here to there. The first two questions you need to ask are:

Where am I now? (Where is "here"?)

Where am I going? (Where is "there"?)

On a geographic map, these can each be defined as street addresses or coordinates on a map. When it comes to creating a roadmap for your information technology (IT) strategy and infrastructure, it can be a little more complicated.

Where are you now – evaluating your "current state"

Before you begin planning for the future, make a complete and careful assessment of where you are now.

Getting an objective third-party perspective at this stage can deliver a more honest assessment and lighten the demands on your internal resources, so you may want to begin by seeking out a company to partner with that has experience doing this.

You'll want to be as thorough as possible to best inform your future plans, so be sure to include:

User Groups and their requirements
List all the departments you provide IT services to, along with a list of the services you provide to each. Document any special requirements that may require unique treatment.

Software Applications
Which software applications are in use by each department. Many create a grid listing all the departments across one axis and all of the applications along the other so it is easy to see which departments use each application.

Client Devices
A comprehensive inventory of all desktop computers, laptop computers, tablets and smartphones indicating who is using each, their user ID, which department they are in, and the full configured capacities of each device. Remember that many users have several devices in use at any given time.

Core Network
The core of your network is where all your on-premise servers, storage, network routers and switches, firewalls, power conditioning and backup power supplies, data backup and other equipment are. This may be spread among several locations.

Security

Security goes well beyond your firewall. Create an inventory of all multi-factor authentication systems, Intrusion Prevention Systems, Network Access Control, Anti-Malware, Anti-Virus, Anti-Spam and other measures that are in place to protect your network and your data.

Management

What system management solutions do you use to automate and orchestrate all of the various elements of your network, and how many?

Current costs for IT infrastructure, operations, and related services

One of your objectives is always to reduce costs. Create a baseline by documenting all IT-related costs. Remember to include recurring service costs including internet connections, electrical power, heating & cooling systems, telephone and other costs. Consult your company's CFO or finance manager for a list of all cost burdens allocated to IT.

Where are you going – creating your "desired future state"

Recognizing that there will be a difference between where you want to end up and how much of it you'll actually be able to accomplish, it never hurts to start with your "blue sky" evaluation of the desired future state of your IT strategy and systems.

Remember, however, that what you want may not be everything you need. Again, an expert partner will likely identify ways in which you can significantly improve your processes along your roadmap.

Company Objectives

Every great plan begins with the ends in mind. What are the definable, measurable, business objectives your company wants to achieve by improving your use of information technology. This will be the yardstick by which your success is ultimately measured, so make sure it's complete, comprehensive, concise, and achievable.

Where are the opportunities to create productivity, efficiency, and profitability gains by improving technology?

What recommendations do you want to make to your company's executive team to take the anticipated benefits even further?

Software changes required

For each software application in use in your company, there are only five possible paths forward:

• Applications that can be completely retired as they are no longer really in use by anyone

• Applications that are still useful, but would benefit from being upgraded or updated

• Applications that still perform useful functions, but the application itself is so antiquated that it must be completely re-coded or otherwise replaced

- Applications that are still fully functional, but would benefit from being re-located to either different platforms, or to a virtual or cloud host

- Applications that can be completely left as they are?

Infrastructure changes required
- Hardware, including servers, storage, networking gear, and others must be assessed to determine if they have outlived their useful lives, and replaced if they have

- Replacements may also be made for equipment that has been replaced by newer models with significantly greater capacities and performance, but only if the initial return on investment period is deemed reasonable by your finance team

- Performance of cloud services should also be evaluated for possible replacement by superior services

Staff & User Training Requirements
For every improvement, replacement, or other action you are taking as you improve your IT implementation, remember to include appropriate levels of training for all required personnel to assure maximum performance and output from each improvement

Required improvements to service, support, and help desk resources
Be sure to include adjustments in service, support, and help desk resources to accommodate users of new and improved software, hardware, and processes. Failure to do so could turn an intended improvement into a serious black eye for your efforts

Desired Timeframe for Completion – in phases
Once you have recorded all of the changes you wish to make, estimate the time required to achieve each one and set out a timeline for completion in reasonable phases.

Available budget
Everything you do here must ultimately be governed by available budget. Your "blue sky" plan may encourage your financial decision-makers to be bolder. Be prepared to cut back if necessary by knowing what you'll delay first

The Big Picture – Creating the best cooperative experience for your Data Center, Office Operations, and End-Users

Where IT departments were once considered an expense, a cost of doing business, today's data center is part of the strategic planning that drives the company forward and increases return for stakeholders.

Recognize that the data center does not live in a vacuum. Interoperating seamlessly with other operational departments and end-users is as critical to your success as it is to theirs.

Interview department heads, end-users, and others involved in operations. Go beyond your own perception of their requirements to learn their real-world day-in-day-out needs. Your IT roadmap will ultimately be judged by how readily users adopt it and use it to create significantly better outcomes for the company. These are your allies. Align with them.

Ask them what they love and hate about existing systems. How could they be improved? Where have they had to create workarounds to compensate for weaknesses in the systems? What additional capabilities and functions do they have on their "wish list?"

These interviews are best conducted by specialists with both business and technology backgrounds. If your company doesn't include such specialists, this is another opportunity to leverage the expertise of an external partner. Also, an external partner may be able to obtain deeper levels of understanding than a colleague due to their objectivity and the absence of personal relationships. Many employees are often hesitant to share what they feel might be viewed as shortcomings with other employees, while they will feel more comfortable with an outsider.

After you've implemented any change, keep in touch with your user community. Always be asking how well the new additions and changes are working. They are your customers. Always make certain they are delighted.

Data Center Planning – Optimizing Performance through Detailed Planning

The worst case scenario. That's probably the best place to begin your planning when designing a data center. Identify the worst thing that could happen and create a way to respond most effectively when it does.

Fault-Tolerance

This requires careful thinking about what the company can stand to do without. How long could operations continue if the entire data center were completely lost? How much data can the business stand to lose without having to shut its doors. Statistics regarding how many businesses return after suffering a disaster are startlingly high, and a high percentage return but go out of business soon after. Your design must provide for that.

For every data asset your company owns, you must have a value assigned to it so you can determine how much you should spend to protect it. How will you back up your data? Onsite or offsite? What business operates absolutely depend upon IT operations being fully functional at all times? In the event of a system disaster, what provisions will you have in place to replace those lost systems? How quickly?

Performance

Optimizing performance doesn't necessarily mean spending more. For example, very expensive "fully-integrated" networking and storage appliances are now being replaced with "software-defined" systems. Instead of running the "intelligence" software on the actual appliance itself, the software is run separately on a basic server. In the case of storage, many data center operators are using inexpensive "commodity" disk drives instead of very expensive appliances.

Security

A major conglomerate was meeting with a sales representative from a security company. They were regaling him with tales of all the amazing security provisions they had installed to protect their many companies and their operations. All manner of firewalls, sophisticated detection systems, authentication systems. They claimed that their IT operations were unstoppable.

The salesperson got up from the table, walked across the room to the data center, opened the door, walked in and switched off a server.

So much for unstoppable.

The morale of the story is to remember that a data center is a physical place, too. It requires as much security as any digital device it houses. Plan accordingly.

Compliance

If your company is part of an industry that is subject to regulatory scrutiny, determine which certifications you require and what resources and processes you'll need to put into place. Beyond the initial audit to assure compliance, you'll frequently be asked for the documentation you've compiled regarding the effectiveness of your provisions. Plan accordingly.

Given the severity of proper business continuity and disaster recovery planning, this is one area that definitely should be handled by a professional partner who can not only assure thoroughness, but also assure compliance with any government or other regulatory issues you may be subject to.

Printer Networks/Managed Print – Relieving the stress of a maintenance-intense function on your company

Begin by taking the position that there are many functions in a data center that may be accomplished more effectively and less expensively by outsourcing than by in-house personnel.

Managed Print is an excellent example of such a service. Stocking consumables, monitoring consumption, scheduling replenishment, and assuring availability is a major operation. Restoring full function to "broken" printers is another. Analyzing and recommending ways to reduce cost is yet another. A Managed Print provider is far better prepared than any of your own people to provide maximum benefit in each of these areas and more. Printers are seldom the primary responsibility of anybody in any given company. It's usually an additional responsibility, and therefore will be relegated attention accordingly.

A quality Managed Print provider will provide evidence of just how much your company can save by engaging them to manage your fleet of printers for you.

End-User Client Devices – Giving your users the tools they need to keep working

Many companies have been very responsive to requests by employees that they be allowed to bring their own devices (BYOD) to work on and connect them to the network.

No surprise.

While adding such a wide variety of devices is an absolute nightmare for IT management, executive management sees the advantages of not having to purchase desktop and laptop computers, tablets, smartphones and more. Not having to buy them usually also means not having to support, maintain, or repair them. Users with their own devices will usually be more than happy to work on their own time as well, in their own home. Facilities and other costs literally disappear.

The biggest concern in the BYOD era is how to protect the data that travels back and forth between the corporate network and the end users. Once that data is on a user's device they could easily send it to someone outside the company using their own personal email or other communications systems. That nullifies any and all security provisions the company has made. What if a device with corporate data is lost or stolen?

There are sound solutions for all of these challenges. Containerizing the data separately on a user's mobile device not only protects that data, it also makes it easy to erase that data without harming the user's own data should they lose the device or leave the company. Using virtual device infrastructure (VDI) the user can see the information, but it never leaves the data center. These are intricate technologies that will require not only professional planning and implementation, but also professional operation and management on an ongoing basis. Plan accordingly by identifying a professional partner with virtual environment expertise.

Creating great user experiences begins with enabling them to have a consistent interface no matter which device they connect to your network with. With today's intelligent software and web development tools, it is easier than ever to achieve this.

Accessories and Supplies

While the digital age has ushered in a time of fewer consumables, users still need many things to make their lives easier and their work more efficient.

Security begins with the physical, so locking devices to prevent unit theft keep becoming more and more popular.

As users seek to reduce the number of devices they carry, more will want to use one device as a phone and also as a workstation. If they want a larger form factor to work on, they will want an excellent headset to make their calls more convenient and more comfortable. They'll need more comfortable cases to carry things in. They'll benefit from tools that make it easier to take better care of their devices and keep them operating longer and more efficiently.

Combining Service & Support Choices to create Optimized Service

Depending upon the size of your company and other factors you may want to keep certain services in-house. When doing so, though, it's important to ask yourself who in your company has the ability to assess candidates for IT positions. Do you know how to identify, attract, and retain great IT personnel? What growth opportunities will they have in your company?

Many of the periodic procedures that need to be performed in a network can be handled far more capably and less expensively by external organizations who are trained and resourced for them. Many offer monitoring programs which allow them to be highly responsive should anything falter or fail.

Companies will often turn to external IT service and support organizations to avoid significant operating expenses like keeping all the skill sets required to run everything in your data center operating, keeping all necessary spare parts available for your equipment, and stocking replacement units for rapid restore situations.

Security at Every Level

Get into the habit of asking yourself "how do we make sure this is secure" at every stage of your planning. Given the current digital landscape, consider recruiting an expert security partner and having them ask the questions and provide the most effective answers.

Now, more than ever, attackers are finding newer, cleverer ways to exploit your network, steal or damage your data, and make your life much more miserable. Stop them in their tracks. Security is not something that's added to your IT plan. It's something that's woven into every step, every phase, every segment, everything.