Slide 1

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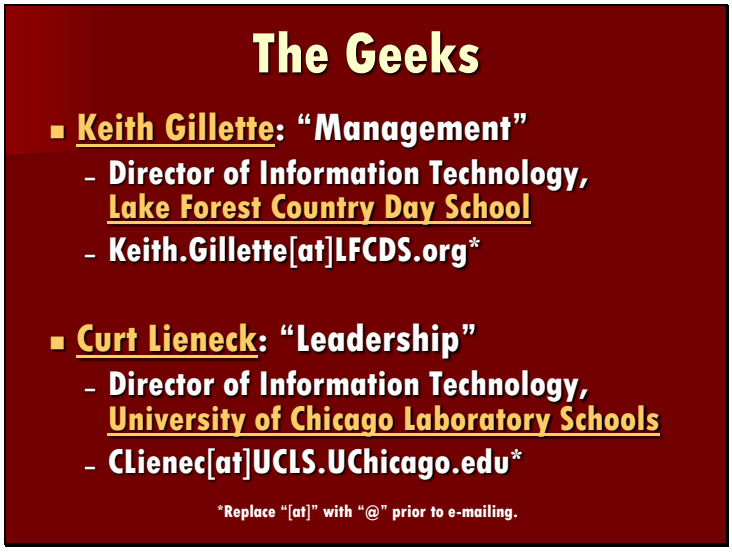
Slide 2



Good morning!
<>
My name is Keith Gillette. Welcome and thank you for coming.

While it violates every principle of effective presentations, I am afraid I have to start this session with a downer:
<>
My co-presenter and esteemed colleague, Curt Lieneck, is unable to make today's session. He is seeing his son off to his first deployment to Iraq. While I am sure that in some sense, Curt would prefer to be here, I think we all understand the necessity of him attending to his family at this time.

What that means for us is only that you will have to listen to me for both parts of this presentation. I had intended to speak, in broad terms, about information technology *management* in schools. Curt was to take the topic of school IT *leadership*. Unfortunately, none of us will get to benefit from Curt's wit and tremendous wisdom on the latter, except insofar as I can deliver his ideas and notes that I have worked together. On the upside, that may make the session shorter and, given our size, allow it to be more interactive.

[SKIP IF POSSIBLE].
By way of boring introduction: For the past five years, I have been the Director of Information Technology at Lake Forest Country Day School, a private elementary school 30 miles north of Chicago. I spent another four and a half years prior to that designing & building from scratch the IT infrastructure & 1:1 computing program at Conserve School, a boarding high school in Wisconsin. I also have experience managing IT in higher education from coordinating IT support for the Residential Network in the dormitories of my alma mater, the University of Wisconsin-Madison. While I got a degree in Philosophy from UW (meaning, yes, I will be dry & long-winded), I also have a Masters of Science in Information & Telecommunications Systems Management and am currently an MBA student at the University of Chicago.

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With that out of the way, let me start by asking who is in the room so I can get a feel for audience background. How many School Business Officers do we have? Raise your hands. How many IT Directors? How many classroom teachers? Any other roles? … Thanks.

I am also curious to know what drew you to this session. I hope the answer is not “Curt Lieneck”.

I know that there are 3 concurrent sessions right now, so you did not just flip a coin. Or if you did, you had to do it twice. Anyone care to share their motivation for attending this particular session? … Thanks!

[While I do have a lot of prepared content, I would love to tailor it to this audience so that we can draw on the experience of those in the room and not just my narrow perspective.

Please feel free to ask questions during the session. While I will try to reserve time for questions, discussion, and sharing afterward, given our small size, I am happy to entertain them throughout.]

One prefatory remark: I am going to speak at a fairly high, conceptual level. I will be introducing frameworks for IT management & leadership. I hope that in your discussions with peers today & on the Twitter backchannel, you will talk about the practicalities of these principles in your day-to-day jobs. That is why we are here: to learn from each other. I am no expert, I am just wearing a suit at the front of the room and here to frame some ideas for us to reflect on and discuss.

One last bit of housekeeping: I do not have any handouts, but will make the relevant references for this presentation available on the TechCon Website after this session.

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I am going to start off with what one could call the *management* perspective on IT in K12 schools, which will be informed by what we can learn from IT operations in the business world, since in large part, the technology we use in schools is identical to that used in business, &, being the relatively late adopters we are, business has been managing that technology a lot longer than schools typically have.

<>

In particular, I am going to introduce to you the discipline of Information Technology Service Management, a framework of “best practices” developed by the business sector over the past couple of decades.

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For those of you who attended this session because my catchy title made you believe that we would be applying the concepts of the Jim Collins book, *Good To Great*, this is where I throw you a bone.
<>
ITSM is about building a “Culture of Discipline”,
<>
or in the language of *Built to Last*, it is about “Clock Building”. ITSM is the discipline of thinking about, agreeing on, & documenting *how* things will be done.

Slide 6

ITSM begins to answer two essential questions in providing IT Services.
<>
It does *not* give you a direct answer to the question of *why* you have IT at your school: that is the higher-level question answered by your school's *mission,* and one that will be addressed more directly when I turn my attention to *leadership* in the latter half of this presentation. But as we will see, it emphasizes, in its *service* orientation, that "why" *is* an essential question to answer.
<>
ITSM provides the most guidance on the operational questions of "what" and "how" within an IT Department. It provides a library of "best practices" to draw from in defining IT operations for your school.

Let me make an analogy: Your business office must, by law, be compliant with GAAP, the Generally Accepted Accounting Principles. Think of IT Service Management as a (nonbinding) "GAAP for IT".
<>
As I indicated at the beginning, in this section, I will emphasize *management* (in Peter Drucker's words, "doing things right") more than *leadership* ("doing the right things"), but these management principles are still vital practices for successful implementation of IT.

In many ways, the distinction between management and leadership can be thought of as a distinction between these questions.
<>
No matter *what* you are doing, leadership looks to the higher-level *why* and asks whether it is the "right thing to do".
<>
Management takes the "what" as given and attends to the the lower-level *how* to makes sure that the *what* is "done right".

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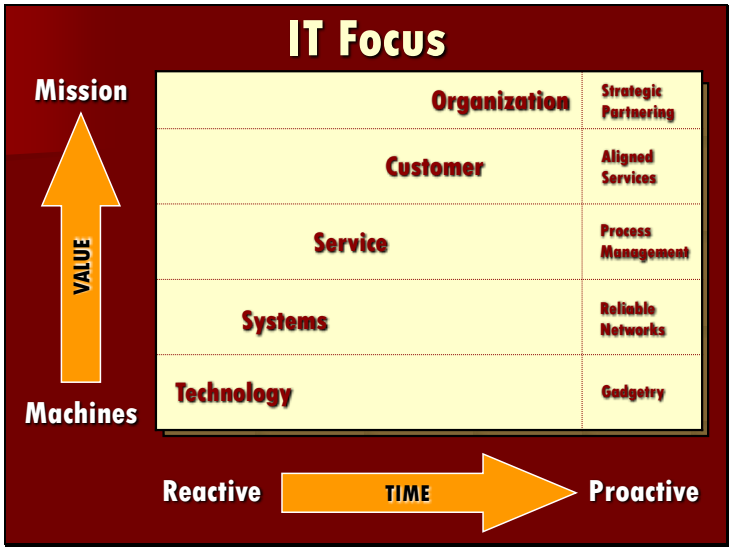
Before I get into the meat of IT Service Management, let me *stop* for a moment to motivate why you should be interested in it.
<>
I think you should be interested because “approximately 80 percent of unplanned downtime is caused by people and process issues”, according to Gartner, an IT research group. So if you want to have a reliable IT operation, and I will argue that it is essential to accomplishing your school’s mission that your IT services are reliable, then you should be interested in IT Service Management.

We can take it as a given that reliable IT services are important, but I want to explore the reasons for that for a moment. To understand the importance of reliable operations and therefore of ITSM, I think it is critical to understand the hierarchical nature of effective use of technology.

<http://www.maoz.com/~dmm/complexity_and_the_internet/downtime.pdf>

Slide 8



At the bottom of the hierarchy, one finds the *machines*.
<>
Somehow, one wants to use these cool gadgets to advance an organization's *mission*.
<>
The better you do that, the more value is created.
<>

Getting from *machines* to *mission* in the trick. Of course, you need the technology itself. Typically you see some new gadget and say, "oh, we could use this to help teach writing, or this other thing to improve parent communication".
<>
This leads to a very natural initial emphasis on the machine, on the *technology* itself.

After a while, you see so many of these opportunities that you end up with a lot of gadgets to be managed and interconnected. What one typically finds, then, is a shift from technological gadgets to systems.
<>
Complexity is increasing & you need technology staff who know how to hook it up & keep it up. The network must be reliable, the computers virus-free. The integrity of the system is paramount.

But it is easy to lose track of the higher-level *why* at this point,
<>
so a strong service orientation is needed. This provides a broader context for IT decisions than just the technological system. The IT department starts to think in *process* terms, beyond its internal technology systems, to the broader interconnected processes of the school and how its systems provide services to the larger organization.

Now we're getting closer to the mission, but this is a still a static approach and still IT-centric.
<>
The next level is seeing the stakeholders outside of IT as customers. And, instead of dictating the services and service levels IT offers narrowly from the capabilities and limitations of the underlying

technological systems, IT actually designs its services around the needs of those stakeholder-"customers".

Finally, and here we are talking about leadership and mission,
<>
we take the *organizational* perspective. We do not just create IT services around current stakeholder needs, but *partner* with those stakeholders to create new strategic initiatives that happen to use technological systems to advance the mission of the school and transform the way it operates. That is the highest value use of technology.

It is important to note, however, that one can't jump in at that level in a technology deployment of any significant scale. These perspectives are largely cumulative. This is a *nested* hierarchy. If you don't have reliable systems in place, your aligned services on strategic initiatives are guaranteed to fail. Your faculty won't use technology to transform their teaching because they will not trust that it will work when they need.
<>
And it takes *time* to move from a technology-focused, reactive stance to a fully mission-driven, co-creative, pro-active organizational perspective.

IT Service Management addresses these middle layers & provides the practices needed to move *up* the value hierarchy. This is why you should care about it: Achieving competence at 1 level allows more time for the next, higher value, level.

Now that we have motivated the need for IT Service Management, let us take a closer look at what it is.

First, I am going to talk briefly about the general conceptual approach that ITSM takes in order to set the context. Then, I am going to very quickly throw out a few of the ITSM industry frameworks that exist. I will then extract from them a few essentials to get you started on the path toward implementation.

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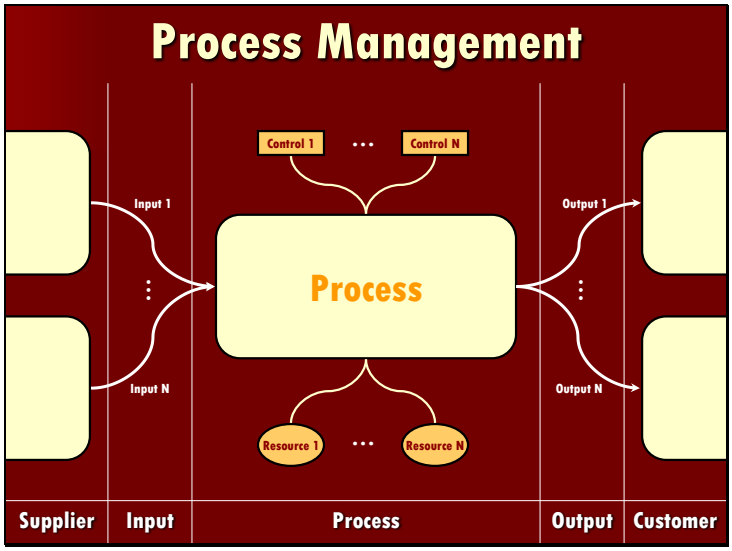

IT Service management originates from the quality management movement and is grounded in the systems perspective of process management, a term I have bandied about a bit now. By process management, I mean the point of view that conceptualizes the world as an interlocking network of interrelated systems,
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which take *input(s)* from some supplying process(es),
<>
perform some *transformation process* on those input(s)
<>
to change it into some *output(s)* that, in turn, become input(s) to some customer process(es).
<>
Important in this perspective is the emphasis on making *visible* the otherwise ephemeral activity structures that each of us enacts, on making *concrete* the largely repetitive sequences of coordinated action that actually perform the productive work of organizations. By doing so, process management opens the possibility of comparison, measurement, and planned improvement.

Enough theoretical background! Let's touch on a few of the ITSM frameworks that exist. I am just going to throw out the names of these frameworks. Because their definitions can fill volumes, I cannot do them justice here. I just want you to know their names to have a few references to take with you for further research after this session.

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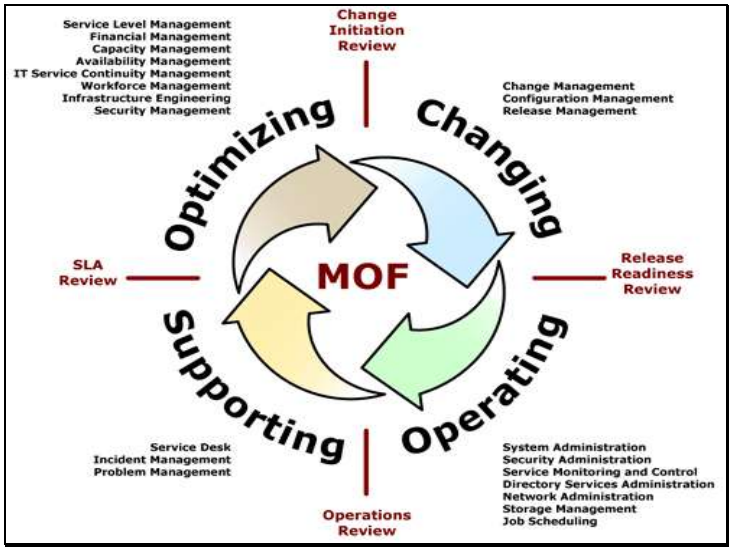

A few IT *vendors* have defined service management frameworks. The Microsoft Operations Framework is one of the most developed, and one of the most detailed in spelling out at a *procedural* level, how to run an IT operation, at least one that is Microsoft Windows Server-centric. Microsoft provides electronic copies of the MOF for free download on their Website.

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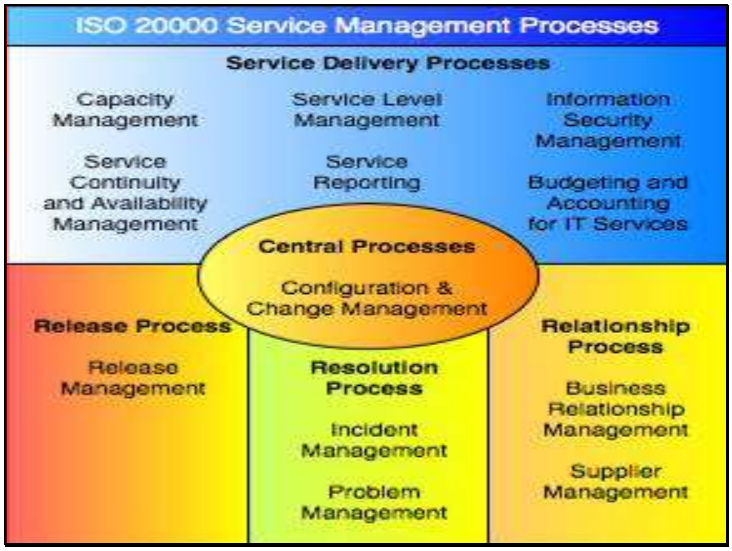

The International Standards Organization has their own ITSM framework. As with all ISO specs, it is known by its number, in this case 20000.

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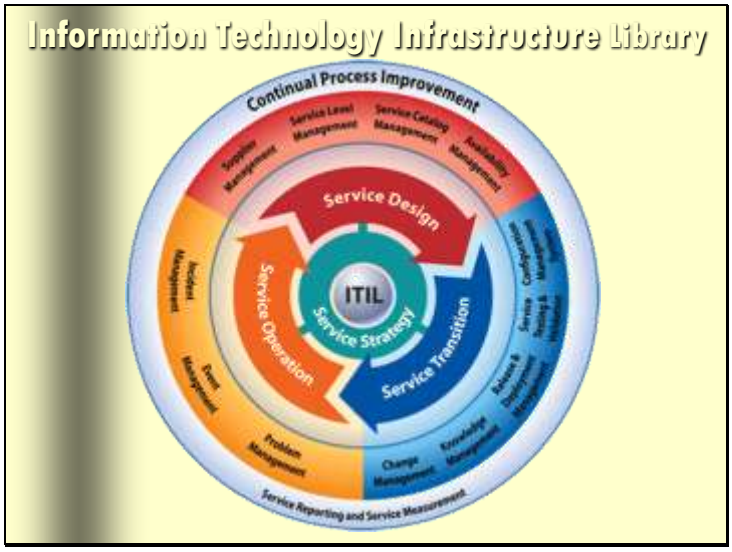

The most significant vendor-neutral framework is called ITIL, the Information Technology Infrastructure Library. In its 3rd version, ITIL is the proverbial 800-pound gorilla of the frameworks, and its official specification fills five 350-page volumes costing around $625. There are a plethora of third-party books, training courses, and certifications in ITIL on the market.

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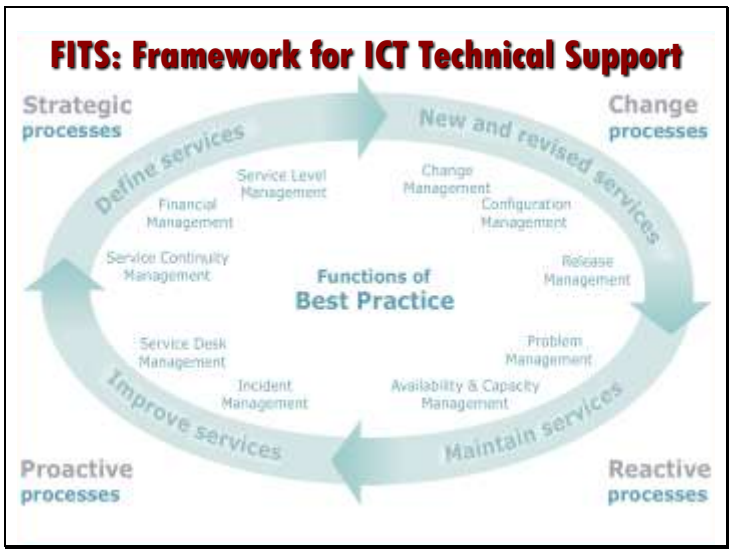

Of more interest for us is the Framework for Information & Communications Technology Technical Support (FITS), published by Becta, the British Educational Communications and Technology Agency, which promotes ed-tech in Great Britain. FITS is a scaled-down version of ITIL, simplified & customized for school IT operations. Becta publishes several guides to FITS as free downloads on its Website.

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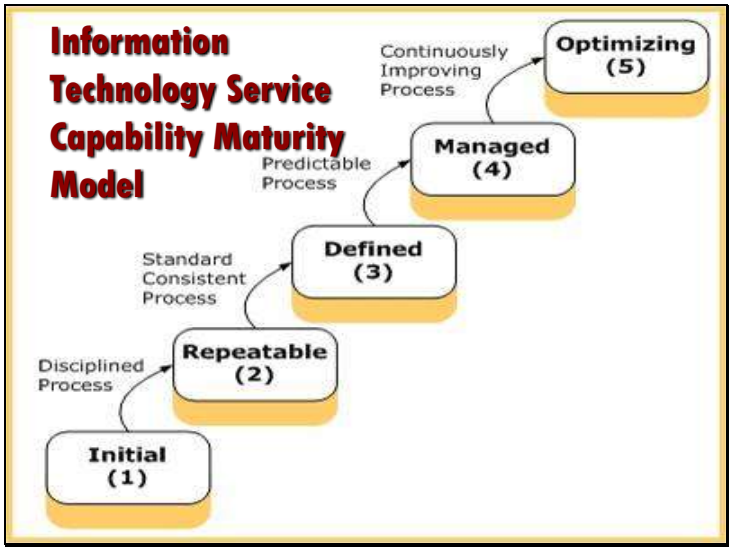

While I am aware of several other ITSM frameworks, the last one I want to mention is the Information Technology Service Capability Maturity Model, which adds a *vertical* level representing the development of the maturity of IT operations in addition to the horizontal definitions of process areas. I will return to this vertical dimension after I take a moment to lay out the commonalities in these frameworks..

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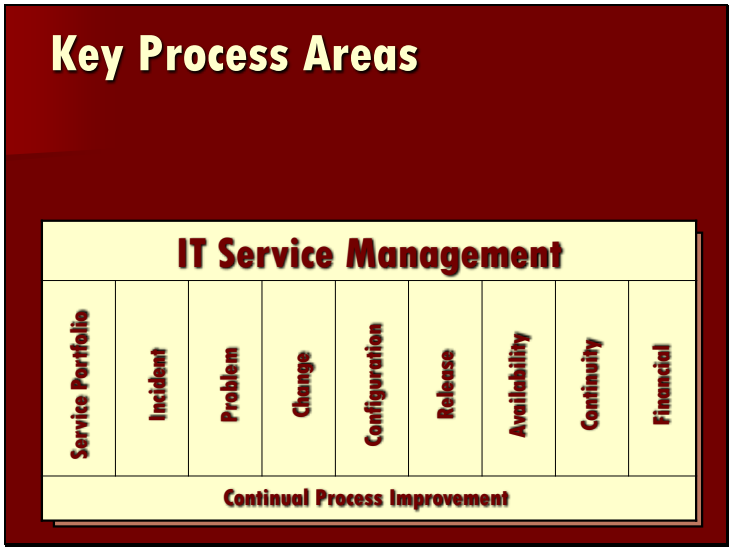

Each of these frameworks differs slightly, but there is tremendous overlap, since they all deal with the same content area of managing IT operations and originate from the systems perspective of process management.
<>
Let me briefly lay out a high-level list of key IT Service Management process areas representing the overlap among these frameworks. Now the nomenclature I will flash on the screen will sound clunky. Avoid getting hung up on the names. Rather, focus on the *practices* that lie behind them.

As I introduce them, I invite you to *reflect* on what your school is doing in each area. Have you thought about it? Do you have any procedures in place? What *should* you be doing?

•<> So first, *what* are you doing with IT? What *portfolio of services* does your school offer? That is, do you support Macs or PCs or both, or iPhones or Windows Mobile devices, or in-house e-mail or Gmail or Microsoft Office or Open Office or Google Docs? What *levels* of service can faculty, staff, students, & parents expect? Are these services published & publicized? How do you determine what new services to offer & when to retire old services?

•<> What procedures do you have in place for front-line tech support: answering the “help desk” phone & e-mail and, importantly, *tracking* those incidents?

•<> What is your process for resolving underlying technical issues that may result in multiple incidents reported to your help desk? In incident management, a tech may close a help desk case with a *work-around*, as in: “You can’t print your document to the color printer on the second floor? Try the one downstairs.” Case closed! Problem management seeks to resolve the printer driver conflict that was the underlying cause of the print error. Do you dig down that extra layer to resolve *problems*, not just close *incidents*? Do you ask that extra “why” when things go wrong or just put out the immediate fire without installing fireproofing?

•<> What controls do you have on what your users can do on your network? More importantly, what internal rules does the IT department have in place for making changes to your production network systems? This is where a big chunk of that 80% of system problems come in: from untested, uncontrolled changes your IT staff is making.

•<> What standards, procedures, & documentation does the IT department maintain on the technical setup of its systems?

•<> What process does IT follow in rolling out new hardware & software systems to end-users? Are they coordinated with the daily & annual rhythm of the school? Is adequate documentation & training supplied?

•<> Do your system administrators perform routine maintenance, regularly review error logs, monitor storage capacity, processor & network utilization levels, & have proactive planning measures in place to keep your e-mail server , for example, from getting overloaded?

•<> Do you have disaster recovery plans in place? Have you *tested* your backups? Do you know how quickly you could get your essential communications infrastructure back up in the event of a fire or flood?

•<> And finally, what practices do you have in place for setting budget priorities, making fiscally & environmentally sound procurement decisions, managing IT costs, & measuring the value of your IT investment?

<> OK, so that either sounds like a load of confusing mumbo-jumbo or it makes perfect sense & you are wondering why you are wasting your time listening to someone drone on about the obvious even if the custom animations are mildly entertaining. Either way, my apologies. My point in laying this out is to communicate that there are widely accepted (and freely available) models of IT operations management from the business world that can provide tremendous guidance in answering all of these questions and ultimately helping your school achieve its mission more efficiently & effectively.

So now that you know something of the *breadth* of internal IT operations, the natural next question is: *How* your school is doing in each of these areas? Well, there's a framework for that, too, of course! Within each of these *horizontal* process areas, there is also a *vertical* dimension of process excellence, or to use more mumbo-jumbo, "capability maturity".

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The IT Service Capability Maturity Model (CMM for short) defines 5 levels of excellence that can be applied to each of the process areas
<>
The base level, Initial, means "flying by the seat of your pants". If you happen to succeed, it is because you have dedicated staff putting in *heroic* efforts to hold everything together. I think this happens far too often in schools because we are typically under-resourced.
<>
The next level is Repeatable, meaning that success in providing service can be replicated because there are a few standard operating procedures in place to ensure at least some level of consistency for commonly recurring processes.
<>
CMM level 3 is Defined, where full processes are agreed on & documented, leading to fairly consistent high levels of service, at least in a static customer environment.
<>
Level 4 starts to add metrics to these documented processes, so that performance can be objectively measured.
<>
Finally, level 5 uses these performance measures as an input to continual process improvement.

At this point, you are probably rolling your eyes laughing, saying "yeah, right, are you kidding, that will never happen in my school". And I will readily admit that this is an ideal model.
<>
As you might imagine, the *number* of organizations that operate at CMM level 5 are, far, far, far fewer than those that operate at lower levels. The question is not "How would we ever get to level 5?", but, "How do we get to the level above our current level?" There is value in moving up each of the rungs in each process area.
<>
One moves from being reactive to proactive. And the less time your employees spend putting out fires (or waiting on server crashes, network outages, or broken computers), the more time you have for important, mission-driven activities. Accomplishing that mission is, of course, the all-important *why* we care about any of these internally-oriented process areas.

Let me pause for a moment on that point, because you may be skeptical, even after my earlier attempt to motivate the importance of this type of approach. Early on in my career, I was offered a job as a contract network support technician at a credit card processing clearinghouse for *The Associates*. This bank had half a billion dollars worth of credit card transactions flow through this one data center before noon every single day. For stakes like that, the need for professional IT service management becomes pretty apparent. True enough. But in the decade since then, reliable, high-performance information technology has become as *mission critical* for education as it was for banking then. While network downtime during the school day may not represent millions of dollars of lost revenue, it does represent real costs to schools in lost productivity, a real impediment to fulfilling school's primary mission in the 21st century. When our school technology is unreliable, we lose the hearts and minds of our teachers, who won't trust it to use in teaching their students. While inadequately managed IT may not produce millions of dollars of damage in a few minutes of downtime, it represents in incalculable sacrifice in the quality of students' education.

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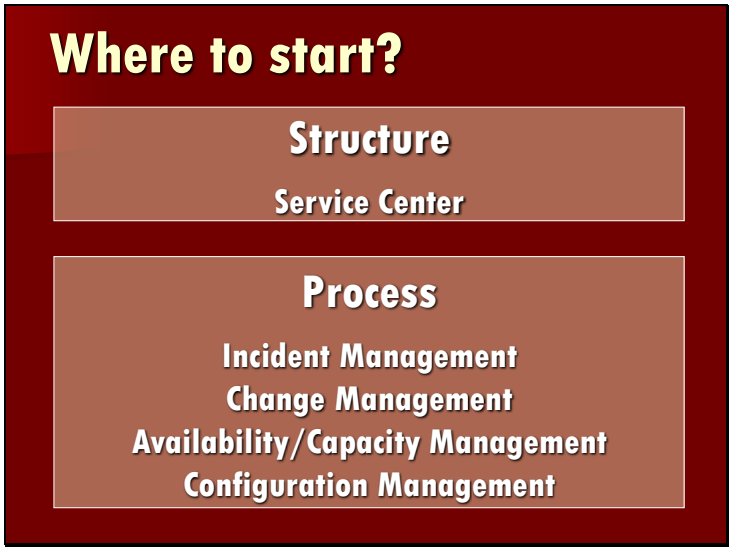

Assuming you see the need for ITSM, the next logical question is: how do you get there?

To answer, let me transition away from theory & try to give you some practical, take-away, implementation advice. The most effective place to start is at the interface of the IT department & the rest of the school.
<>

This means setting up what I call an IT Service Center, the ITSM version of a “Help Desk”, the one-stop-shop for user needs: One phone number, one e-mail address, one desk, not “hunting down whoever is around in IT” or “calling my favorite technician and leaving a voicemail”. This one structural change has increased user satisfaction at my school, as measured on our biannual user satisfaction survey, *tremendously,* to all “Very Satisfied” or “Satisfied” ratings. Not even one rating “Neutral” or below anymore.
<>

The critical processes to start with center around what the Service Center does: managing incidents. Build your process capability out from there, from incident management, to change management, then availability & configuration management, all the while trying to move up the capability maturity ladder in each of these areas.

Let me just wrap up by giving a few observations about each of these process areas to give you something concrete to take away.

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So the IT Service Center provides the single point of contact for all IT service requests, the most common of which will be incidents. That is, things like, “Help, the Internet is broken!”. This is so basic, you are probably already doing this.
<>
You already have a single help desk phone number & e-mail address & hopefully, an on-line reference knowledge base as well. Perhaps you are already using it to coordinate communication, notify users of planned downtime & make them aware of new resources. But are you tracking those requests? Do you have a service ticket database to coordinate work, keep your technicians on the same page, your users up-to-date, and to tell you how you are doing quantitatively? Tracking is the key next step that is vital to move up to the next level of excellence.

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Once you have basic a basic Service Center in place & incident tracking procedures routinized, look at change management. This is a core systems administration discipline that may dramatically decrease the number of those incident tickets coming into service center.
<>
Remember that 80% of unplanned downtime comes from user errors & uncontrolled changes by your IT staff,
<>
so make your systems administrator's mantra, "test, test, test". Virtualization can be a tremendous help in this, as it allows test environments to be set up easily and redundant copies to be put in place to back out bad changes quickly.

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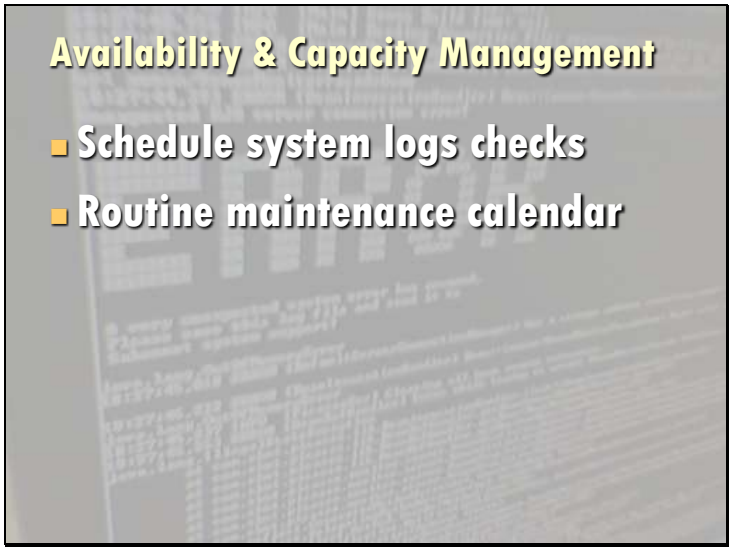
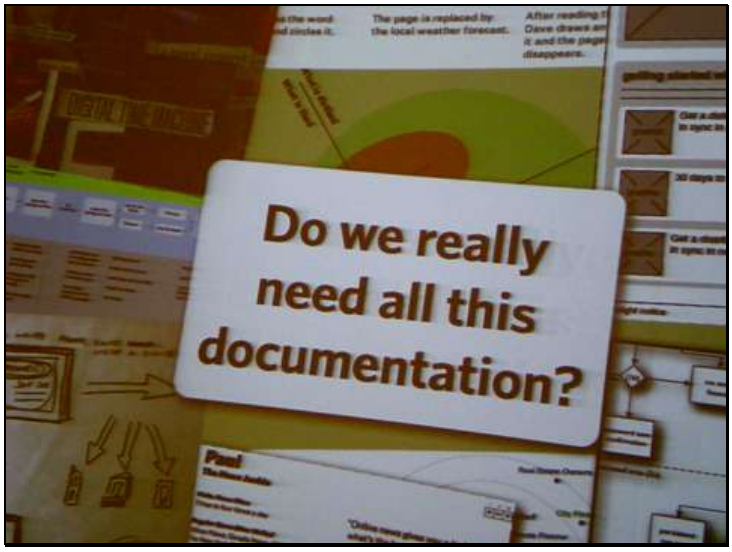


Another core systems administration discipline is availability & capacity management, a proactive stance to monitoring server & network health. Do your staff do regular checks of system logs? Do they check free space? Do they perform routine maintenance? Are they blowing the dust out of the projectors *before* they overheat? Just like your maintenance department should have checklists and maintenance calendars for inspecting the boilers & oiling the fans, your IT department needs checklists and maintenance calendars to keep its infrastructure in good working order. Progress in this area can be as simple as manually checking your system health, but there are also a wealth of fairly sophisticated low or no-cost monitoring tools available to automate this type of monitoring.

Slide 21



A final discipline I will highlight is configuration management. This was one of my obsessions as a systems administrator. The computer systems we administer get so complex so quickly, it is impossible to remember the configuration settings & interdependencies between the them. If you haven't done a good job documenting those things when you install a system or make a change, you will be in a world of hurt when it crashes & needs to be rebuilt or the new version comes out or someone else takes over. Even as a sole sys-admin, I would document all my configuration settings because in a month I would have dealt with so many other things, I would have no recollection of how I set something up when I came back to it.
<>
The bottom line for the good system administrator is: "If it is not documented, it's not done." To help in this effort, I have created documentation procedures and templates for my system administrators to make it easy for them to capture configurations when they do installations. Part of our IT culture is to e-mail the link to newly completed documentation for review & feedback to make sure it's understandable by someone else.

Slide 22

Enough!

I could obviously go deeper on each of those process areas & wider to speak to the areas I did not address, but I can tell by the look on your faces it is time for me to stop & change subjects. I hope the introduction to IT Service Management and what we might learn from the world of business has been informative if you are interested in digging into it more deeply, I recommend starting with the free FITS guides published by Becta, which provides a simple introduction to ITIL, adapted & scaled specifically for schools. I really think the service management orientation provides one very powerful way to move your school from Geek to Great, to increase the value of IT in your school by focusing on process excellence that moves the focus from machines to mission.

Slide 23

All right. So much for the internal “what” of great IT operations from the “business” perspective. It is time to stop talking about *management* & broaden our horizons to look at *leadership* and the “why” of IT in education. At this point, I would love to have turned things over to my esteemed colleague, Curt Lieneck, as it is, but you will have to suffer on with me!

So let’s begin. There are any number of ways we could approach the topic of leadership. What I have to share with you is a distillation of a number of leadership principles, primarily from Curt’s experience and reflection. These on his many years of experience in schools, but also in his knowledge of IT leadership in higher education, another venue from which those of us in primary and secondary education have much to learn, as higher ed has typically been an earlier adopter of technology than we have and also share some of the unique cultural and institutional feature of schools more than a typical business, from which many of my management lessons were drawn.

As with my introduction to IT Service management, I want to begin by mentioning a few frameworks for your future reference. I am not going to spend time explaining each of them in any detail, I just want you to know their names to have a few references to take with you for further research after this session.

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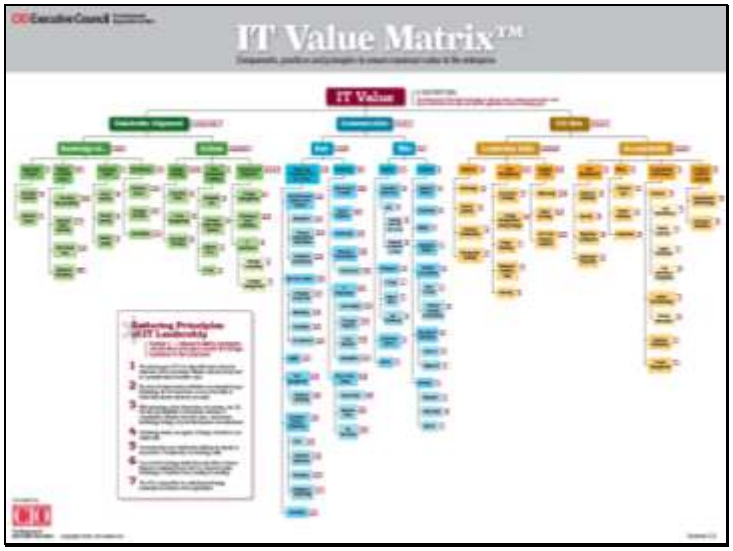

One fairly comprehensive framework is the CIO Executive Council's IT Value Matrix, which organizes key IT leadership skills and activities. I particularly like the enduring principles of IT leadership, which states, among other things that "IT leaders are agents of change" and "communication and relationship building are equally as important to IT leadership as technology skills". We will return to those themes shortly.

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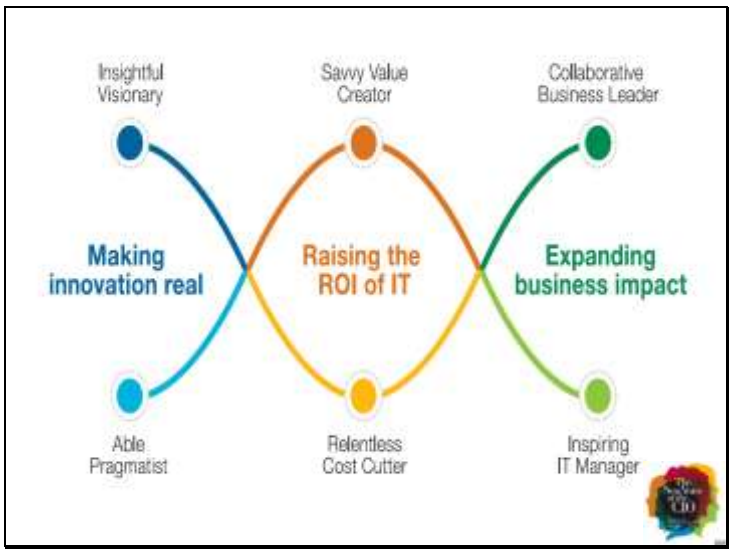

Just a month ago, IBM came out with their report “The New Voice of the CIO” based on interviews with 2500 technology leaders from around the world. They wove together their findings into three themes and six major roles. I would highlight the Insightful Visionary, Able Pragmatist, and Collaborative Leader as themes we will pick up on.

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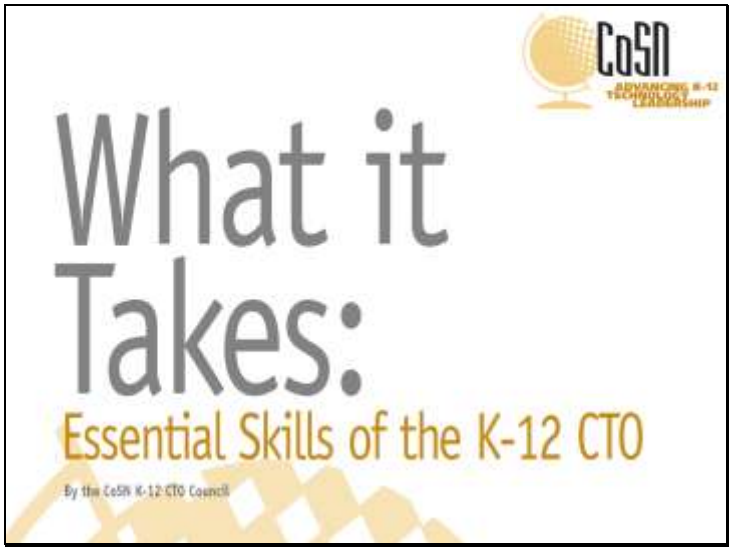

Speaking more directly to school leadership, The Consortium of School Networking, a national educational technology advocacy group, has put together several publications throughout the years on School CTO Essential Skills, Best Practices, and Emerging Roles..

These guides contain some useful, if obvious advice aimed squarely at K-12 IT. A great value here is to benchmark against the organizational structures and practices of other schools, as CoSN materials speak to that directly.

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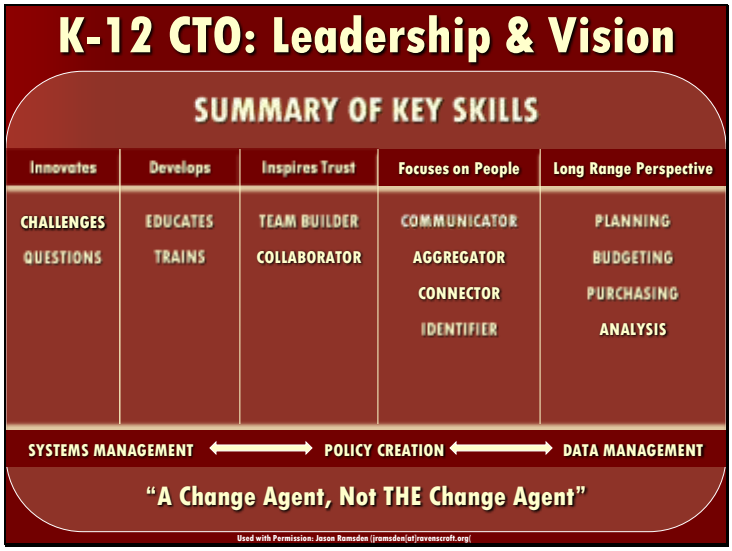

Out of all of these, one might synthesize a list something like this of key skills for a IT Leader. Interesting for someone like me who came into the field as a computer geek, technical skills are not necessarily high on the list.

Let me highlight a few of these skills in turn to give us an opportunity to reflect on how IT leadership plays out in schools.

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A key factor for IT leaders is **Vision**: the ability to see and articulate how IT can best serve the school. Vision is, of course, a key theme today as Meg just spoke to in the opening session.

As technologists, we are in a unique position. IT has already grown so integral to organizational operations, that we see all sides of school operations, from the heart of the classroom to the communications with parents to the building monitoring systems that keeps our physical plants operating to the personnel systems and everything that makes the district office work.

Along with this organizational perspective, we also see what is emerging in technology. There is always something new on the horizon, and that makes us agents of real change if we can put these two things together and communicate a vision for technology that advances the mission of the school.

This brings us to another major theme of the day, *change.*

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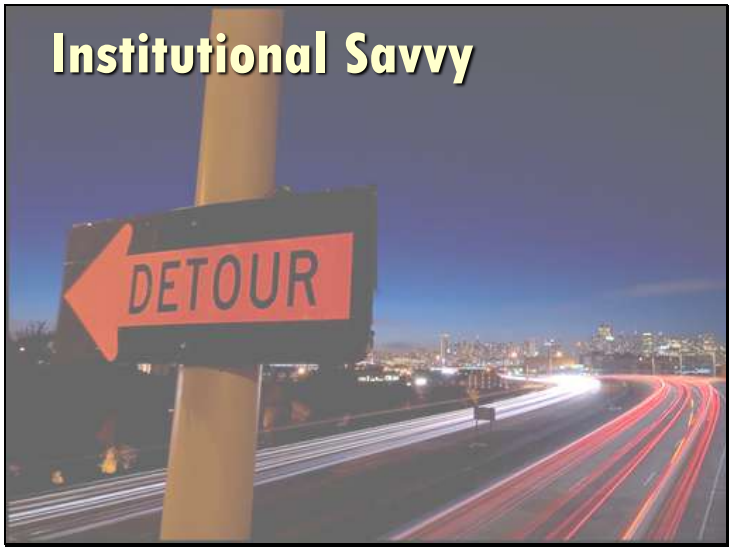

Of course, if effecting change were as easy as describing a nice vision, our work would be child's play.

It also takes what Curt has politely termed **Institutional Savvy**: the knowhow to translate the vision into action in spite of structural or cultural impediments.

It requires being enmeshed in the organization, not standing apart from it. This one is hard for me. I love systems. People I can take or leave. Being truly effective requires knowing both and how they interact.

It also requires a problem-solving habit of mind. Because it is one thing to see problems, but one also has to be able to identify the opportunities embedded in them in a way that others can't.

As the saying goes, "Problems are only opportunities in work clothes." [Henry Kaiser, American industrialist]

The combination of technology vision and institutional savvy allows for successful transformation.

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Gaining that savvy requires an understanding all the stakeholder groups—being enmeshed in the life of the organization. As I am sure you have experienced, this means putting on different "hats" as needed, taking different roles in the organization to understand what goes on and how things can be improved with technology and process.

Playing multiple roles also means leaning into the discomfort that comes with living squarely between school's teaching mission and the business infrastructure that goes with it... As Curt says, serving God and Mammon at the same time and being just fine with it...

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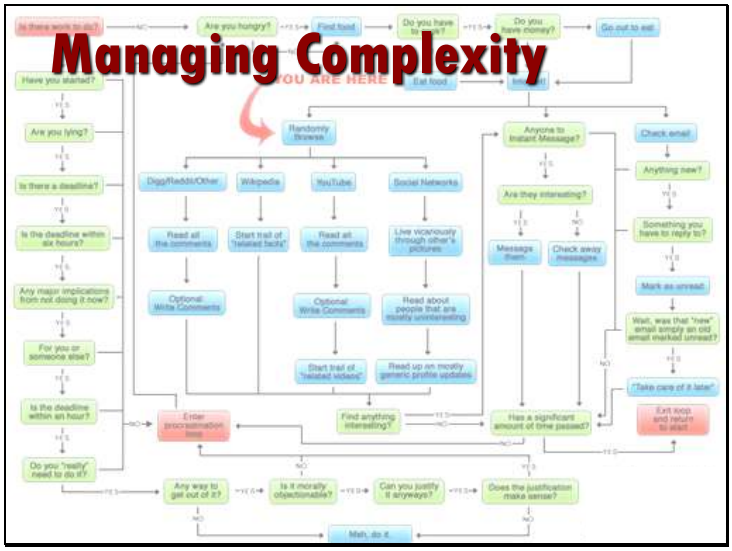

Related to the idea of playing multiple roles, is a skill in dealing with complexity.

Here, experience managing complex projects in other organizations, not necessarily in IT, can be valuable background. For Curt, experiences that he had before working in IT were great preparation, even though he did not know it at the time: For him, it was running a summer school program, writing the lower school schedule, working with teams on clinical work with kids, as well as writing, marketing, and implementing social service programs. All these sorts of non-IT experience can helped prepare one for this work,

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Dealing with complexity also requires an ability to refocus on demand: One must be able to jump nimbly from 5 ft. in the trenches items to 50,000 foot view and everywhere in between at the drop of a hat, because small actions have big consequences in technology: You can't create a successful COW program if the mobile carts you buy won't fit in your elevator.

<>
This one can be a real challenge to do by yourself, as the danger here is to get lost and not see the forest for the trees. Especially if you still wear the technician hat, it is easy to get lost in technical details and not come back up to the larger management issues. My head has been in the details of getting the WINE Windows emulator and Adobe Flash to work on an obscure distribution of Debian for some of our netbooks. Moving from the Linux command line back up to thinking strategically with our Head of Upper School about our work with faculty on “Teaching & Learning in a 2.0 World” creates a sort of conceptual vertigo that is challenging. Just making the leap is one thing. Making yourself make the leap is another, because you will get tracked into one level of analysis and operation if are not intentional about it. You have to find ways to move back up to the strategic level, back to thinking about vision and working through the politics of the institution, if your natural inclination in to stay at the level of bits and bytes.

Find organizational allies in this. Book meetings with them to keep focused at this level and advance the vision in the organization. Stay involved in professional organizations like Illinois Chief Technology Officers to keep these issues in front of you.

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Another factor for good IT leadership is the recognition of the interdependence that technology compels, and being able to use it to cut across institutional "silos“. The classic example of this lies with the multiple stakeholder data held in our student information systems: Part of our job is to coordinate competing interests among these groups, to meet their needs but also convince them that there is not "your" data ... only "our" data, because how you store data invariably affects others downstream from you.

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And that brings us to perhaps the most important attribute for an effective CTO: you must be a great *communicator*.

OK, I would have much preferred to have a shot of Patrick Stewart as Captain Jean Luc Picard rather than a Kirk figure, but it's nearly impossible to find a Creative Commons licensed photo of Picard.

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What the heck, I will go out on a limb and claim *fair use*. This is an educational context, right?

So Picard is a great geek icon but I think he is an exemplar of the sorts of skills a CTO must have. He is a great leader and part of that is his ability to *communicate*.

In IT, that means the ability to:
gather, understand, and analyze data well
excellent writing and speaking skills
and not just in a dry, analytic vein
It requires being storyteller, developing some stage presence -- enduring change is more about emotion than it is reason, and must we be able to tell the IT story in a larger context to others can relate to.

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Of course, all of this raises the question: *As an IT leader, do you have a seat at the table?* Do you report to the Superintendent? Are you involved in top school administrative team meetings?

If aren't welcome at the table in this way, all the great vision, institutional savvy, and communication skills will only play small on your school. Of course, those same skills should qualify and move you into that seat at the table. Ultimately, as IT leaders, our jobs touch all areas of a school and this is where much of our role lies.

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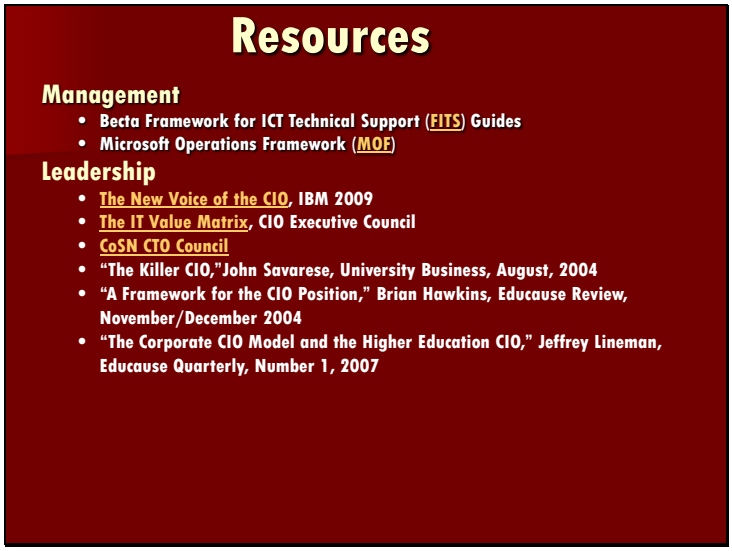

See photograph attributions as ALT text in embedded pictures.

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