

Information Understructures, Inc.

The Case for Work- Where-You-Are- Computing

Thriving in the high-cost-of-energy business environment.

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The Case for **Work Where You Are Computing** sm

We're in that part of the business cycle again when the wheat will be separated from the chaff.

Soon we'll know if we are officially in a recession or not, but we do not need official economic pronouncements to know that the rising cost of energy is making the business climate more challenging, and will continue to do so for a while. Consider:

- \$5/gallon gasoline is a real possibility this year.
- The increasing cost of energy is leading to "energy surcharges" on everything from shipping to salad.
- Airlines - with more than enough problems of their own - are trying to balance their budgets on every delayed, cramped seat they sell, and every piece of luggage they check.
- There aren't funds to make real improvements in our roadways. The interstate system is completed, and there's barely enough money to keep it properly maintained. However painful the congestion is on the roadways, it's only going to get worse unless our officials can fine us, fee us, or penalize us enough to stay off the roads.
- Commercial real estate keeps getting more expensive to develop, to use, and even to get to. The energy cost of operating real estate is on an ever upward spiral. And of course the financing of real estate is its own tale of woe.
- The effect of energy costs and global competition for resources is fueling widespread inflationary pressure. In fact, what we are experiencing now may not be a cost spike that will pass, but rather a permanent elevation of the energy expense baseline.

2

How will business respond to these threats?

Many will drag out their same dull tools out of their same old toolbox and work up a great sweat in order to accomplish.....almost nothing.

Managers of a cost control bent will prefer:

- Across the board budget cuts.
- Freezes / limits to salaries, especially for front-line producers, suspension of bonuses and other workforce morale breaking tactics.
- Cutting the janitorial staff (everyone clean up after themselves).



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- Putting locks on the thermostats to control heating and cooling costs.
- Passing along “unavoidable” price hikes for goods and services (hey everyone else is doing it).
- All other types of miss-the-big-picture cost cutting shenanigans.

Nickel and dime cost-cutting approach will appear to work for a short while but in the end it alienates everyone, especially customers. Our airlines are masters of this approach. Does anyone even have a favorite airline anymore?

Soft, “We Love Our People” management will pick from a different menu of worthless responses in an attempt to ease pressure on their staffs:

- Cash supplements to help employees cope with the rising cost of gasoline for commuting.
- Reinstatement of COLA (Cost of Living Adjustments) raises for employees.
- Pleading with customers and vendors for more favorable terms so they can take care of their people.

These approaches successfully raise the cost of doing business for the company, and damage goodwill among the workforce when they are inevitably withdrawn, all while contributing not a speck of competitive advantage or value to the company or its customers.

Both sets of approaches have been tried before, and in the end they under deliver, or lapse into oblivion. They are dull tools that do not address the root cause of the challenges before us.

So are we are doomed? No. What we have before us is a great opportunity to eliminate waste that could only reveal itself in an environment of shortage (money, energy, and other resources)

Today our root problems are two fold:

1. The cost in energy, effort, and lost time in moving people from one place to another (especially the daily work commute) is high, getting higher, and often adds very little value. Employers might think that they are insulated from employee commuting costs, but commuting factors prominently into the employee’s cost/benefit analysis when deciding to stay with a current employer, or jump to a new one.



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2. The cost of providing a centralized place to house the workforce is also getting higher, and the reasons for providing one are becoming more irrelevant. In fact, many offices are little more than jumping off points as the same employees who suffered the morning commute to get to work, promptly leave the main office to begin their day and their real work out in the field.

Where we are Today

We have a romantic attachment to our factories. We like to build things; we are pretty good at building things. Building things require factories and equipment, buildings, and offices. Many businesses stake much of their perceived worth on their “building” or their “office.”

The real product of American business in the 21st century is intelligent thought. Our brainpower is our real value proposition. We collect data bits, distill information from data, create knowledge from information, and grow intelligence from knowledge.

We have educated our brains and set them loose on market challenges and opportunities – almost. Our familiarity and comfort with big factories and office centers make us want to warehouse and organize our brains like so many drill presses on a factory floor.

The cost of energy challenges in the business climate today should prompt us to ask two critical questions:

1. Is forcing the commute of all of our brains to a central office each day cost effective, or even useful for the best performance of our brains? and;
2. What is the real value of having a central office anyway?

If we address these questions with a critical eye we might find that the answers expose new productivity, competitiveness, and cost effectiveness opportunities.

Describing the Opportunity

First, let us define a Knowledge Worker (KW) as one whose primary work tool is a computing node connected to the company information system. She uses this tool to support her activity in sales, marketing, accounting, operations, or any of the typical business roles within her organization. She also pervasively communicates with other people as part of her work efforts, sometimes in person or by telephone, but most often by email.



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One of the main reasons to make our KW commute to the office each day is that that is where the computer nodes are. A year or so ago, I made a visit to the local public library. I was surprised to see how many computers had been setup for general internet use by library patrons. I was surprised to see all the computers were occupied, and that there was a line (and a time limit) for other patrons to access the computers. I remember thinking “What a shame they don’t have computers at home, what a waste of gas and time to come all the way to the library to use the computer, what an impediment to inspiration and creativity to only access the computers when the library can accommodate them.” Having finished my chore at the library, I continued my commute to my office, where I was able to log onto the company information system and finally start the work I was inspired to do the night before. Hmmm...

The intelligent mind of a KW is not made more vigorous by suffering through a commute to work. The vitality of an idea is not enhanced by having to delay its development until the next day at work. Clockwatching by staff due to an unpleasant worker or work environment does not improve staff productivity. And discussing March Madness around the water cooler is not an aid to team focus.

Responsible KWs are enthusiastic about, and proud of their work. Left to themselves, they will work a challenge well beyond expected work hours. Properly motivated, they will contribute generous amounts of what a colleague of mine calls “dream time,” time in the shower, or while grocery shopping, or wherever, constructively thinking about the work challenges before them.

What is required to get optimal performance from a KW? A supportive work environment of course. The challenge seems difficult, everyone wants a different environment. The solution is absurdly simple; let the KW spend most of their time working where they want to work. For many, this will mean working from a spare room at home.

Consider what happens and doesn’t happen when a KW works from home:

- There is no commute time or expense, no traffic jams or accidents. No pressure to compensate employees for rising fuel costs.
- The employee will see this as a huge quality-of-work-life benefit.
- No need to maintain an expensive dedicated office for the KW.
- A reduction in inter-office spats, politics, complaints about strong perfumes, hygiene issues, personality conflicts, and other ~~too-many-rats-in-too-small-of-a-cage~~ problems.



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- On a larger scale, cars are kept off of roads, reducing congestion and pollution, and cutting a huge financial burden from your employees (A modest factory of 1,000 workers can routinely consume 25,000 commuter miles every day, which means collectively they are effectively burning through almost \$5,000 dollars a day in gasoline, 41 oil changes, 3 sets of tires, and a new car every week¹). For an equivalent staff of KWs, this large expenditure yields almost nothing in value – but again we are stuck in our big factory / big office paradigm.
- KWs will often engage their work in informal “off-the-clock” work sessions as their interest dictates.
- Employees who feel well enough to work, but are a threat to co-workers (contagious colds, flu, etc.) can continue working for the benefit of all.
- Employees recovering from illness or injury will be more likely to return to their work sooner if there commute is only down the hall and as the desire to “get back in the game” builds.
- Even expenses such as toiletries, janitorial services, heating, cooling, and electricity (the cost of running a facility) are reduced.
- Days of marginal weather or dangerous road conditions lose their ability to disrupt the business work day for KWs.

Now let us consider the effect on the main office when KWs are supported by **Work Where You Are Computing**.

- The main office can be restructured to optimally support tasks for which a main office is best: conference rooms, centralized resources and services, customer interaction spaces, group/project workspaces, the public presence of the company and other resources specific to the mission of the company.
- Making provisions for offices or cubicles (kennel space) for each KW can be reduced or eliminated. Consider the hypothetical needs of 50 KWs arriving to work every day vs. 50KWs who may be in the office only half a day a week or so. Right sizing an office to support this “Distributed Workspace” can reduce the required office space by 90%. The reduction in office space can easily exceed \$200K/Year.² Even the reduction in running coffee pots and maintaining restrooms can be significant.

¹ In this example, IU assumes the average round trip mileage for an employee is 25 miles, gas mileage for his vehicle is 25 MPG, gasoline costs \$5/gallon, an oil change is required every 3,000 miles, a set of tires lasts 40,000 miles, and a car has a useful life of 125,000 miles.

² In this example, IU assumes each KW working exclusively from the main office occupies a cubicle of 10' x 15' or 150 sq. ft., and that the KW's share of common office space (rest rooms, hallways, etc) is an



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- Offices that currently seem too small are now adequate or oversized, and the expense, downtime and lost productivity of relocating are eliminated.

Another class of workers that can strongly benefit from **Work Where You Are Computing** are field workers. Field Workers (FW) are outside sales people, service reps, field managers, etc. FWs typically have an assigned space within the main office, but actually deliver their value in the field. How often does a sales person have to come back to the office to check his email, fill out an expense report, pick up marketing collateral, and “show his face” to his manager? How many selling and prospecting hours are lost by these activities?

How often does this lead to the dreaded inside sales person / outside sales person team, whereby two people do one job in a massively inefficient manner so that someone can answer the customer’s call when the outside salesperson is in the field. How often are customers forced to re-explain to the inside person what they’ve already settled with the outside person. It’s a perfect lose, lose, lose scenario between the inside sales person, the outside sales person, and the customer. And this assumes that the inside and outside people actually get along well with each other.

Implementing **Work Where You Are Computing** eliminates this foolishness and its attendant expense and inefficiency.

7

What is needed to adopt Work Where You Are Computing?

Three main components are required to move **Work Where You Are Computing**:

An Excellent Communications System

The workforce must be able to communicate across the distributed workspace with ease and certainty. Communications supplemented with two-way video is very important as it supports the transfer of critical non-verbal information. Typically this means a capable PBX system (real or virtual) that can seamlessly route calls. The distributed workforce will typically be using wireless handsets and lap-top based video cameras.

additional 100 sq. ft. for a total of 250 sq. ft. At a \$15/sq. ft. /year rental rate, and \$5/sq. ft./year operational expense (utilities, janitorial, maintenance), the KW’s office cost \$5,000 year excluding furniture, fixtures, and depreciation of leasehold improvements. Fifty KWs would therefore consume \$250,000/yr in office space. Reducing KW occupancy to ½ day per week in a shared desk space environment reduces the need for office space by 90% or \$225,000/year.



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The workforce must be able to interact with the company personal information manager from their smart phones or PDAs including Email, Contacts, Task Lists, Calendars, and simple document viewing and editing.

A Secure, Available, and Pervasive Company Information System

The company's mission software applications, supporting applications, and data must be responsive and available wherever internet access is available. The system must be secure, protect confidentiality, and place minimal burden on the worker or the IT staff in maintaining it (It is almost impossible to maintain and update laptops in the field, or in the employees' home).

Information, particularly confidential or proprietary information is among a company's most valuable assets. Making this information available to a distributed workforce can be difficult balancing act between usability and security.

Newspapers frequently report how one company or another, or one government agency or another misplaces a laptop thereby exposing sensitive information to the outside world, leading to a loss of intellectual property, customer confidence, and even exposure to law suits. The lesson here is do NOT let data files and software out into the distributed workplace.

Companies might reflexively implement VPN³. The reality is there is substantial operational friction involved in maintaining a VPN network for a distributed workforce. For example:

- A dedicated VPN server or appliance is required.
- VPN still requires that applications be installed on each laptop or remote workstation. Remote machines still need trustworthy anti-virus, anti-spam solutions, as well as effective patch maintenance.
- VPN connected machines still need upgrades and replacements as software additions increase the load on machines.
- It is very difficult to make sure that company confidential files do not get transferred to the remote machine, especially files that the workforce must be allowed to access to perform their duties.

³ Virtual Private Network. A protocol whereby remote computers are connected to the main office network through a "Virtual" extension of the LAN, embedded into the internet connection.



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- Replacing a lost, stolen, or failed machine is time consuming, particularly when a robust security and authentication system has been implemented. Often there is no good alternative to bringing the replacement machine to the main office to be integrated into the network.
- The larger the files accessed by remote users, the slower and less efficient a VPN implementation becomes.
- There are considerable challenges in assuring that a remote workstation or laptop does not infect or spy on the company network. The spyware aspect is particularly challenging. High ranking members within a company's workforce often have greater security privileges on a company network. To satisfy the real or imagined needs of these users, IT administrators often grant privileges beyond what is necessary. Unfortunately, excessive privileges granted to a user imply that these same elevated privileges are extended to her remote workstation or laptop, and by extension, any spyware or malware inhabiting her workstation.

To summarize, distributed workforce users should be able to remotely access the Company Information System:

- Via a reasonable internet connection (DSL / Cable / Wireless Broadband / Wi-Fi Hotspot).
- From any available Microsoft Windows machine.
- Without fear that any malware or spyware resident on the remote workstation or laptop can infect, disable, or attack the Company Information System.
- With strong encryption.
- Without concern that confidential company data is being transferred to the remote workstation or laptop.
- Without the need for the company IT staff to see, touch, feel, or configure the remote workstation or laptop.
- Without the need to install on the laptop.
- Without the need for the company IT staff to upgrade, maintain, patch, control, or even own the remote workstation or laptop (Work Where You Are KWs might even choose to use their own computer platforms).
- Without the burden of managing software licenses across a distributed workplace.
- And when required, with the absolute ability for management to terminate a user, disable access, and know that the Company Information System did not leave data breadcrumbs behind, even if the terminated user becomes adverse to the company's interests.



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A Supportive and Accountable Work Environment

A culture must be developed whereby distributed workforce members understand that the benefits of **Work Where You Are Computing** are not intended solely to make their work day easier. **Work Where You Are Computing** is an approach to performing work intended to bring reduced expense and greater freedom to the employee, AND reduced cost and greater productivity to the company. For this approach to work, a certain mindset must exist:

1. KWs & FWs must understand that **Work Where You Are Computing** relieves them of a substantial amount of commuting time and expense, and enables them to utilize more of their time on the creative demands of their work roles. This does not mean that they can give up their means of getting to the office when required. Nor does it mean they can give up daycare for their children. Working from home does not mean caring for children on the employer's time. Employees must rise to a higher level of personal responsibility. Extended periods of unsupervised work is not license to deliver low value, low productivity work.
2. Employees must proactively communicate to a greater degree than when they worked out of the main office. Employees must proactively update their supervisors as to the status of their work, and communicate with their teammates to maintain team cohesion.
3. Employers and management must become better at measuring the value contributed by a distributed workforce. Greater emphasis must be placed on measuring value delivered to the company by the dispersed workforce. The actual number of hours "on the clock" will become less important (and less manageable), and must be replaced with a "what have you done for me today" measure of performance. To be direct: if the only way management can measure the value contributed by an employee is by reviewing the employee's time card, then either the employee is unnecessary, or management is ineffective.
4. Management must become better at selecting and training employees so that they can be successful in this environment of substantially increased personal responsibility.

10

How to Start: IU Introduces **Work Where You Are Computing**sm

IU presents a comprehensive set of services and capabilities to fully implement **Work Where You Are Computing**. These services and capabilities enable companies to enjoy all of the benefits of a distributed workforce while providing the tools to maintain security, confidentiality, and accountability.

Amazingly, these services are available without significant capital investment (sometimes no capital investment), and at lower operating cost, and greater availability than anything companies may have previously experienced.



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IU takes the dozens of years of experience of its team, combines key software and services from Microsoft and other vendors and deploys a capability that liberates companies from the confines and expense of working in a fixed office.

The savings in time and money, and the increase in employee effectiveness allow organizations to be more profitable, and of greater value to their customers than ever before, even while the competition attempts to survive using the dull tools in their old toolboxes.

Key to IU's **Work Where You Are Computing** initiative is its reliance on mainstream technology and products, and its broad view of how products, services, office process, and implementation work together in common-sense ways without relying on exotic configurations or leading (high risk) edge products.

By understanding the needs and work habits of KWs, how they differ from FWs, and the traditional in-office workforce, IU presents a comprehensive approach to IT that can improve the effectiveness of everyone in your company.

IU's **Work Where You Are Computing** initiative may just be the tool you need not just to survive, but to thrive in our current high-cost-of-energy business environment.

There's nothing like this time of the business cycle to improve position in the marketplace. Go ahead, save some money, improve your employee's work life, become a more effective competitor, save time, relieve traffic congestion, and stop wasting resources.

Interested in learning more about **Work Where You Are Computing**?

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About Information Understructures, Inc.

IU is an IT service provider focused exclusively on small businesses with 5 – 75 computer users. We have served law firms, healthcare providers, municipal utilities, industrial supply houses, marketing and promotional firms, defense contractors, building contractors, manufacturers, and CPAs. Our particular niche is developing, deploying, and managing administrative, operational, and customer facing IT systems. We hold credentials from Microsoft and well recognized industry certifications. Our experience base in microcomputers and networks spans over three decades.