



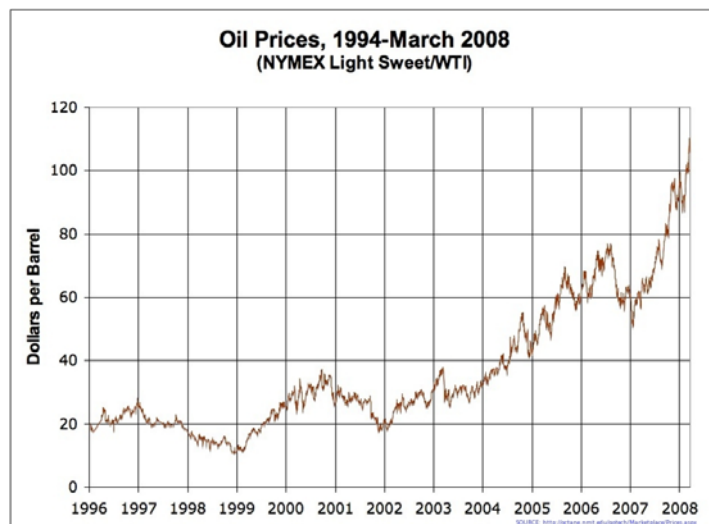
A Telecommunications  
White Paper  
by Chris Fiaccone and  
Michael Marchioni

## ***The Transparent Distributed Workforce:***

*The Positive Economic and Environmental Impact*

### **The Economics of a Centralized Office**

The economic downturn of the US economy is severely impacting small-to-medium sized businesses. The soaring cost of energy makes this more acute. For reasons outside the scope of this document, post 9-11 cost per gallon of fuel follows an exponential curve. This affects all industries, from transportation to services; the cost of doing business is rising significantly. At the same time, buyers are increasingly price-sensitive. This leaves the business owner in a quandary: How can the same good or service be provided at or below the current cost? One solution is an efficiently deployed, distributed workforce.





## The Economics of a Centralized Office Cont.

Globalization is here to stay. However, at the same time, rising energy costs have the potential to quickly transform the US landscape from a commuter-based society to a modern version of the pre-industrial revolution village-based society. The cost of commuting to a centralized workplace is not offset by real wage increases—diminishing the take-home value of the dollar.

By decentralizing the workplace, a significant cost savings is realized by both the business and the individual with zero loss of productivity. The office space requirement of a business is considerably smaller when a majority of its employees telecommute. This lessens the cost of either the leased or purchased space. But the cost savings ripples elsewhere as well. For example, a smaller workplace requires less energy to heat and cool—not an inconsequential saving. After all, the cost of electricity, heating oil and natural gas similarly follows the exponential curve of the aforementioned gas price. As the workspace decreases in size, maintenance costs and property taxes decrease proportionally.

Distributing employees from a centralized workplace to their home office impacts the effectiveness of the employee's wages as well. If the average employee commutes 150 miles per week<sup>1</sup>—not unheard of in many parts of the country—the saving is significant. At the time of writing, gasoline prices are approaching \$4 a gallon. With the US average 19.8 miles-per-gallon<sup>2</sup>, that is a monthly fuel cost of \$121.20. The distributed workforce places that savings—\$1,515 per year<sup>3</sup>—directly in the employee's pocket. Now, factor in savings such as tolls, dry cleaning costs, wearable items on the automobile and the effectiveness of the employee's dollar increases even more.

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<sup>1</sup> 2003 Bureau of Transportation and Statistics, [Omnibus Household Survey](#).

<sup>2</sup> 2005 Highway Statistics from the U.S. Department of Transportation, Federal Highway Division

<sup>3</sup> Assuming two weeks vacation:  $\$30.30 * 50 \text{ weeks} = \$1,515/\text{year}$



## **The Economics of a Centralized Office Cont.**

To effectively deploy a distributed workforce, it must be transparent—both to the employees and to the customer. Employees must be able to efficiently access corporate assets, and this means a carefully designed, secure virtual private network (VPN) with plenty of bandwidth. Only then can advanced applications such as voice over IP (VoIP) telephony be effectively applied.

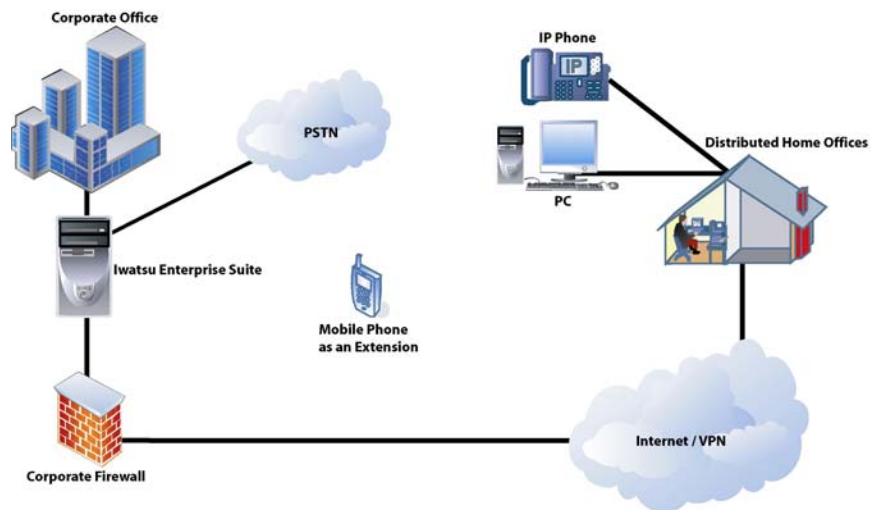
## **The Solution**

Iwatsu Voice Networks' Enterprise Suite is a state-of-the-art unified communications (UC) system that allows SMBs to transparently distribute their workforce. So what exactly is UC and how does it enable a distributed workforce?

## **An Example**

Let's use an example of a software start-up that consists of 10 employees. A small corporate office is used for sales demonstrations and serves as a home base for the SMB. The CEO and director of marketing primarily office out of the location; the sales staff has offices there as well, though they typically work from home. The remaining staff telecommutes. Each of the telecommuters has a VoIP station on their desk at home as well as either a notebook or desktop PC.

## Iwatsu Enterprise Suite

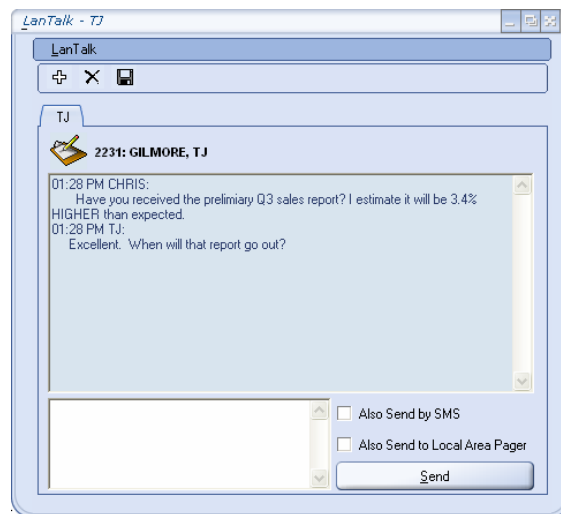


The Iwatsu Enterprise Suite VoIP stations have full feature transparency, meaning the VoIP stations at the corporate location and the distributed workers' home office operate exactly the same. The users call coworkers using their 3 (or four)-digit office extension; they conference calls together; transfer calls; record conversations all from their home VoIP station. Moreover, all incoming and outgoing calls go through the Iwatsu Enterprise Suite, so the physical location of the employee is completely transparent to the customer. Unless they are specifically told, they remain unaware the employee is not at the corporate office.



## Iwatsu Enterprise Suite Cont.

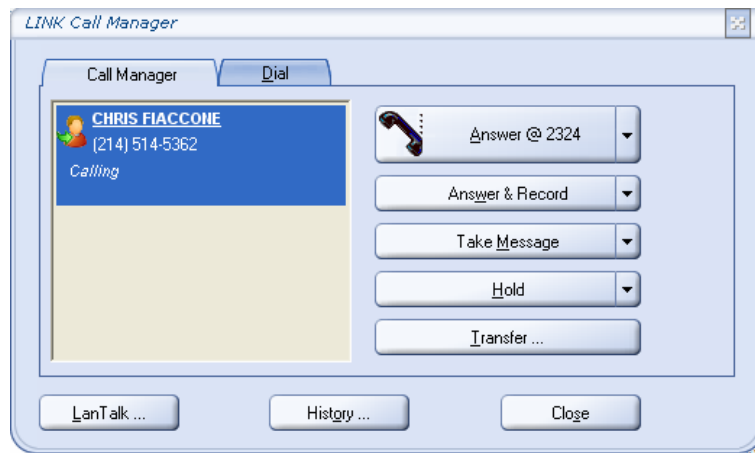
The Iwatsu Enterprise Suite includes LanTalk instant messaging. Corporate office workers and distributed workers alike can instant message each other regardless of their location. All that is required is an internet connection. Employees who are not at their desk can even receive and respond to the instant message using their mobile phone.





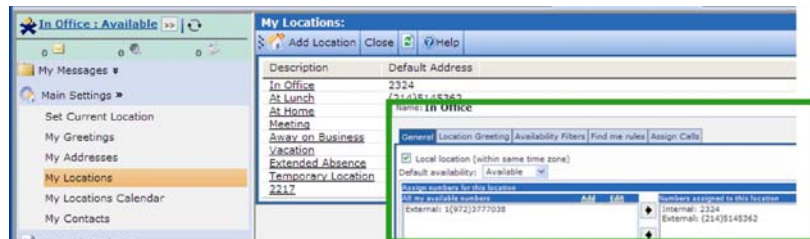
**Iwatsu Enterprise Suite Cont.**

Additionally, all Iwatsu Enterprise Suite users receive screen pops on their PC of incoming calls and can direct the call to the extension or device of their choosing anywhere within the transparent network—they can even send the call to voicemail with a simple click



**Locations-based Routing**

The most powerful application in the Iwatsu Enterprise Suite that enhances the distributed workforce transparency is Locations-based Routing or LBR. LBR is completely customizable by the user, and simply put: delivers phone calls to one or more user-defined destination in either a cascading or simultaneous action.





## Locations-based Routing Cont.

The user inputs every available phone number into the Iwatsu Enterprise Suite. This can be extension numbers, mobile phones, home numbers, etc. The user then defines how he wants the calls to ring. For example, office hours are between 8AM and 5PM. During that time, the user wants his calls to ring his desk. However, at noon each day, he goes to lunch, and he wants only the important calls to ring his mobile phone—his boss and wife for example.

But what about those times when the user is in a meeting? No problem, the Iwatsu Enterprise Suite looks at his Outlook calendar and knows he's in a meeting and does not want to be available to outside callers.

A screenshot of a software dialog box titled "Location calendar properties:". The dialog has a standard Windows-style title bar with "Save and Close", "Close", and "Help" buttons. The main area contains a "Location:" dropdown menu set to "Meeting", an "Availability:" dropdown menu set to "Unavailable", and a "Schedule description" text box containing "Price Forecasting Meeting". At the bottom, there is a section for scheduling with "Start:" and "End:" fields. The start time is 05:27:2008 at 15:30, and the end time is 05:27:2008 at 17:00. There is an "All day (24h)" checkbox which is unchecked. An "Enable Recurrence" button is located on the right side of the scheduling section.

All calls go to a user-defined location—in this case, his voicemail. In the event that the user is in the office but away from his desk, the user can even customize his locations-based routing to find him. So before going to voicemail, the Enterprise Suite first tries the user's extension number and then his mobile phone before sending the caller to voicemail. Again, locations-based routing is 100% user customizable.



## The Environmental Impact Cont.

In 2006, “Global Warming” was a raging buzzword that was covered in seemingly every news publication. The issue was polarizing with one side discussing the implications of global warming while the other side argued that global warming is simply not happening. The indisputable fact is that carbon emissions have exponentially increased since the industrial revolution. Globally, carbon output has increased year over year. And the number one cause of carbon emissions: exhaust gasses released through the burning of fossil fuels,<sup>4</sup> of which automobiles are a significant contributor.

In addition to global warming concerns, the price of oil has increased dramatically in recent months, making all types of transportation significantly more expensive than the historical average. Many people believe that the world has either reached or is rapidly approaching peak production—the point in time when the maximum rate of global petroleum production is reached, after which time the rate of production enters its terminal decline. If we are at or near peak production, the high prices we experienced today will continue. The uncertainty of future supply, coupled with today’s painfully high prices, have led many individuals and companies to think up ways of reducing their rate of consumption.

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<sup>4</sup> For more information on greenhouse gases, reference the [Energy Information Administration](http://www.eia.doe.gov/oiaf/1605/ggcebro/chapter1.html) website, specifically, <http://www.eia.doe.gov/oiaf/1605/ggcebro/chapter1.html>



## **The Environmental Impact**

In response to the constant barrage of global warming and energy concerns, people ask, “What can I do?”. Often times, the answer to these questions lies in taking a new approach to the most ordinary tasks. The daily commute to work is one such task.

Provided the technology can deliver transparency – that is, the remote worker achieves the same level of productivity regardless of their location with no disruptions or reduction of customer service for the business – a distributed workforce is one very effective way to both reduce carbon emissions and consume less fossil fuel. The benefits are obvious:

## **Conserving Energy; Cleaning Air**

Remote workers drive less, thereby reducing total fossil fuel consumption. In addition, various studies have shown the energy required to power, heat and cool the office space required for the average office worker exceeds the energy demand of that same individual working in their home office.

Simply removing cars from the road will reduce the total amount of carbon released into the atmosphere by the average commuter. Reduction of total number of cars on the road will also reduce traffic, thereby improving overall air quality.

Small, centralized offices have a much smaller carbon footprint—that is, the overall carbon emissions required to build and maintain the building. Previously discussed was the economics behind heating and cooling a smaller office: smaller offices use less electricity, shrinking the SMB’s carbon footprint.



## Conclusion

Typically, going 'green' is economically unrewarding. However, in the case of the distributed workforce model, there is not only a significant cost savings to the SMB, there is a cost saving to the employee as well. This, combined with the environmental benefits of decreasing the carbon footprint, is a win-win for everyone involved.

For additional information on transparently distributing a workforce and the enabling technology, please contact Iwatsu Voice Networks at the following address

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