

# the Stand

## Hughes Network Systems on Teleworking



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1) Teleworking has been around in government for a long time? Is it now a thoroughly understood concept? Or are there gaps in managers' understanding of what it takes to successfully employ teleworking?

I think the "CONCEPT" of teleworking is well understood. The Telework Enhancement Act and its passage brought teleworking to the forefront, but there is still a big gap in how the "tele" part of telework has been put together and administered so far.

Teleworkers have been told they're going to be able to stay home and work – "Here's your laptop... go get your own Internet service and hook it up." One teleworker gets DSL, another gets satellite because they live in an otherwise unserved area, another will get cable and so on. So, all these teleworkers end up having different service providers and types of service with a range of security, probably tending towards not very much of it. And certainly it is not managed with appropriate SLAs and performance guarantees.

Many people would say they have better computers at home than at work. However, their network connections are a different story. If you ask them if their network connection is better at home than at work, the answer is a resounding "No!", they're not better and likely much worse.

2) Can agencies that haven't had to manage teleworking much before simply do it? What's the prep work that's needed?

Agencies take a lot of time and go to a lot of trouble and spend a lot of money building terrific voice and data networks to support their workers at government sites, but that same kind of attention is not being paid to the new home office. Agencies are focused right now on very important aspects of the telework enabling legislation and becoming compliant with it, and I certainly get that. But there's a need here for the kind of managed services that teleworkers need to properly do their jobs. If any prep work is needed, that's where it should be focused.

3) Does more expansive teleworking work with current communications infrastructures, or is something completely different required? What do agencies need to plan for?

They need to plan for security, first of all. Then, they have to plan for the inevitability of teleworkers needing to download applications from the cloud, and draw programming, storage and files from the cloud. So they need to plan for network access to the home to have the necessary bandwidth to be able to accommodate all that data.

Secondly, they need to plan for making that teleworker as productive as they can possibly be. Right now, if anything goes wrong with their communications, it's the teleworkers themselves who have to crawl under the desk to see if the connections are OK, or who have to spend two hours on hold with their service providers. And that's not very productive. In the office, they simply call the help desk and it handles all of that.

4) Agencies will be under the gun to keep spending down. What's the minimum technology investment they'll need to support teleworking?

Teleworking by itself is inexpensive. The agencies will soon be absorbing less real estate costs and there will be less overhead to worry about. And it has a lot of other benefits. It's greener, people will be on the road less often so there'll be less overall congestion on the roads, work and life balance will improve, and the result is that you are going to get a happier and more productive worker.

But, to support this, the minimum technology that's needed is broadband service to provide the needed bandwidth and connectivity. Today, broadband in some cases offers much more throughput than the average T1 circuit into a small government office. That's why we advocate for agencies to provide higher bandwidth to teleworkers using managed broadband service, because that provides the most power and flexibility for the teleworker and the agency.

5) What does teleworking mean for agency IT managers? What are some of the hidden dangers, and how can agencies prepare for those?

I'd put security at the top of the list, because the purchase by an agency's teleworkers of a series of disparate consumer network services poses a real security risk. Agencies can supply tokens and passwords and such, but still the dangers of phishing and any kind of malware encroachments is much greater for a network that's not well protected.

I'm not sure that secure telework networking is on the front burner on many agency radar screens right now. So I fear for some really significant security breaches with this spaghetti-like array of consumer access services networked into the government cloud and government data centers. It's a real concern.

6) How intuitive is teleworking? What training do people need before they start teleworking? Is that one-time only, or will they need ongoing training?

There'll be an ongoing need for cultural training. It's a different work model. Some parts of it are intuitive, and certainly there is a natural ability among the younger workers who the government is trying to recruit to use mobile technologies in more non-traditional ways. Plus, I think people are becoming more adaptable to all of this, just in terms of how society is changing the way it looks at working time, such as having more time to work or think about work, and to fire off a quick message to a colleague, or a boss.

The less intuitive part is how managers supervise people who aren't in the office. They can't gather them all together for a quick meeting. Those kinds of things are surprisingly tough logistical challenges that don't exist when everyone's in the office in a more traditional setting. With teleworking, workers are spread out and not quickly addressable, so now managers need to consider different strategies for how they are going to handle that.

7) What are the unique abilities that your company brings to this space?

The managed services portfolio that Hughes brings to the table is really the perfect fit for the telework environment deployed on a national basis. We have established wholesale agreements with a set of suppliers that provide various broadband technologies throughout the country. We leverage those agreements and combine them with our technology to blend them into a single network service using wireline, wireless or satellite broadband that can be offered to agencies for its teleworkers nationwide. We consolidate and manage multiple broadband services for them, and they receive just one bill from one responsible service provider.

If there's a teleworker who lives in an area that's not served with terrestrial broadband now, we can provide a satellite capability to that person's home and connect them to the network. We can provide any other technology for connectivity that agencies want, whether it's DSL, cable or VSAT. Hughes can provide any combination of broadband technologies to new, emerging government small offices, otherwise known as teleworkers' homes.

8) What are the security issues involved with teleworking? Aren't they just an extension of those people are supposed to pay attention to at the office?

No. For network connections to the office, security is managed by both the service provider and the agency security team. Most teleworkers are and will be middle managers or single contributors who, if left to purchase their own internet service, are more likely to buy the minimum level of service they need, and that may not even include the necessary security measures. They may not use the same kind of security precautions that they use to get into the network that they are supplied within the office.

Every agency has security departments worrying about this and administering protection to the building and the network, looking for intrusions and working to prevent those. That's not going to be the case in the home where teleworkers will be on their own.

9) What's the difference between someone using their phone or laptop outside of the office to check email and work on documents, and teleworking?

There are many forms of teleworking. When someone is on their mobile phone and participating in a conference call and they're not in the office, they are absolutely teleworking.

I think agencies have to be prepared to provide for teleworking according to a pretty broad definition of the term. With smart phones and tablets people have a great deal of mobility and they're certainly useful devices, but you can't do everything with them. There's still a lot of work that will need to be done on the laptop at home where a secure broadband connection is needed.

Of course, there will be the time when a person leaves their home office to take a break, and receives an email that requires a quick answer via their mobile or smartphone. None of these things can be viewed to the exclusion of another. They all have to be able to work together.

10) What's the optimal setup for people who telework? What are some of the potential constraints on providing that?

It starts with the network connection, which has to be a fast one provided through a broadband service provider. That connection should be secure and should have the support of the agency IT department. If the teleworker has a network problem, then it should be the network people who should deal with that, not the teleworker.

Those are the basic elements. Then, obviously, there are also the environmental elements. For example, teleworkers should create a good work space in a separate part of the house that's quiet and helps them focus on the work at hand. The teleworker should be as free as he or she can be from distractions that other people should be worrying about, such as the network and the offerings that are available in the cloud.

11) How does teleworking affect Continuity of Operations (COOP) planning?

More than a year and a half after Snowmageddon paralyzed the Washington DC area it's clear that the agencies that were the most successful in surviving it were those who had people who were able to adapt quickly to the situation to continue working from home. COOP certainly isn't a focus of teleworking because you're talking about exceptional needs at exceptional times, but it is an important element.

Bringing in a networked capability to the homes of top officials that don't normally telework but may need that capability during similar emergencies is not an inexpensive or trivial consideration for agencies. But they definitely should plan for it in their budgets. And when you get into a conversation with somebody at an agency, they understand. When that emergency situation happens and they aren't ready for it, it will quickly become something they wished they had done and found a way to pay for, because it could be the difference in whether they handle a situation or they don't.

12) How well do other government IT trends, such as cloud computing, fit with teleworking? From an IT perspective, should teleworking be kept separate from these programs, or can they be integrated?

They can certainly be integrated, but there are considerations that have to be accounted for. Operating through the cloud requires stronger, more secure and more resilient network connections, for example. If applications and computing power are going to be virtual then a question that's critical for teleworkers is whether to have a single access or diverse paths into the cloud, whether to have a consumer purchased, best-effort kind of service or an enterprise-grade managed network connection to support their work.

That's indeed where a managed network comes into play, because we can make DSL, cable or other kinds of terrestrial services available as well as a satellite connection. We advocate this design philosophy even for government buildings. The idea of providing path diversity with network services is just a very smart thing to do. That way, communications will be maintained even if the primary terrestrial path is deteriorated.

It's also a part of any COOP strategy. If you're trying to reach the "cloud" to obtain computing power, access to applications and stored data, then if a single threaded connection to the cloud is disturbed you are really down hard.

So, teleworking and other agency initiatives such as cloud computing absolutely have to co-exist.

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13) How can agencies measure how well their teleworking technology investment is doing? What are the metrics they should use?

They are the metrics they would use to see how well their teleworkers are doing compared to their in-office performance. Are they as productive as they are in the office, do they have quick access to the tools they need to do their job? With a managed network, Telework Managing Officers also would have the ability to measure the network's performance.

Agencies don't have that today, so they must purchase additional tools to measure access to the network, as well as its performance and the performance of the teleworker and so on. Those tools are available on the networks that deliver services to the government office, but they're not available with the consumer services that people buy today for telework.

At the very least IT managers should be able to report to their management that they're providing their teleworkers with 99 percent or more uptime. But there's no way they could do that today because they are not in control of those services. We have federal teleworkers today using network services to do their jobs that are not controlled or managed by their IT and telecom managers.

14) What are the main technology drivers that will most impact telework over the next 3-5 years?

Computing power is always going to get better, so there's certainly a chance that the computers teleworkers use at home will always be better than those they use at the office. Network coverage will also improve. Most importantly, bandwidth, speed and throughput on the network will get better.

Next year we will launch a new satellite called Jupiter that has 100 times the capacity of the satellites that are flying now. It's going to be offering download speeds of up to 25 Mbps and will change the paradigm of how people are going to be able to get speeds that rival today's cable and fiber networks.

For example, in the home of tomorrow people will be able to surf the network, conduct a voice call, stream a movie and download files all at the same time. All of these kinds of transactions will only take up 14 Mbps of that network capacity. And we're going to be offering an affordable 25 Mbps over satellite technology, thus having room for increased throughput and applications we haven't even yet considered.

We could offer those speeds today, but not at any price that people would find affordable. But think of what 25 Mbps download speeds would allow people in the middle of rural America to accomplish, or in the western part of northern Virginia or in western Maryland, where lots of Washington DC area teleworkers live.

15) Where do you see your company five years from now in the federal teleworking space?

I know we'll have made more of an impact in terms of getting agencies on board for teleworking with this managed network approach, and well in advance of five years. They'll be willing to consider moving towards managed services for those teleworkers using the power of broadband to get fast connectivity to home and small government offices. Agencies will have come around to the idea of using a service provider to get them connected into these new home offices, with a network that matches the quality, security and speeds of the networks that connect the larger government offices today.

I think the more traditional networks will continue to provide service to the large offices as they do now, but that managed broadband will be the new access model to connect to those smaller and home offices. That's where we want to be, and we already have the service platform to get started right now! Five years from now we should be providing this solution to every federal agency.



For more information, go to: [government.Hughes.com/TheStand](http://government.Hughes.com/TheStand)