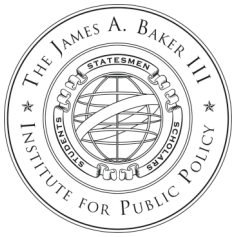

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VIDEO BRIEFING TRANSCRIPT: CONVERGENCE AND CONNECTIVITY

BY

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The following video transcript has been edited.

Q: What is convergence and connectivity?

A: Okay, well, we are talking about these terms, convergence and connectivity, in relation to information technology [IT]. Let me start out by talking a bit about connectivity, which you really have to understand to move on to the term convergence. In connectivity, what we are talking about is how people connect, how they communicate or receive information. So we are talking about human communications moving forward at a distance — from the postal system, to telegraphs, to telephones, to radio and television, right up through the Internet and cell phones and satellite communications. Convergence is a term tied up with digital technology. Basically what has happened is that everything has been digitized. So all of our communications have become broken down into ones and zeros — digital bits and bytes. And what that allows us to do is to have converging technologies — so we see more and more that your telephone is your music player, and it is also your e-mail client or it's your Internet browser. And the companies that provide a lot of these services are selling us not one service anymore. So the phone company isn't just a phone company. The phone company would also like to provide you with entertainment, they would like to be your Internet provider, they would like to do a whole bunch of different things. So they have a converging business model.

Q: Why is this important right now?

A: Well, there are a number of reasons. One is that it's an enormous economic activity. It's a huge industry. It's a global industry now. The United States has been traditionally a leader in global telecommunications and information technology. And we are at a point now in the United States where we may have let our eye come away from the ball a little bit, and we're seeing that other countries have more proactive policy driven on improving the overall level of information technology infrastructure development. What we want to do is kick-start the debate on what our information policy should be in the United States. And, being in Houston, we want to take a regional approach and say, "What's important to us and how does that translate to national policy?" So, we are talking about building ideas for policy and taking a real look and saying, "If we build this kind of infrastructure, what is the economic payoff? Do we get better jobs here? Does our education level for our public school students go up? Do we have a more competitive

work force?" And we have a lot of hunches here, but really we need to think more deeply about the economics of this stuff.

Q: What do the frontrunners want?

A: There are a number of global cities now that are very interested in IT as a backbone for activity. You look at a city like Singapore or Dubai, and IT is a huge part of business activity because they want to be brokers for information and services to the world — they're financial capitals. They are moving a lot of data and processing a lot of transactions, which brings them wealth. Houston is a global city in that regard as well. We are the center of the energy industry; there is a lot of economic activity here. The idea is that with an increasing level of IT infrastructure, the level of economic activity can grow as well — the cost of doing business here will go down. You look at different countries, and there are other countries that have made it a very key part of national policy to have a high level of information infrastructure. When I was in South Korea for the State of the Union address for the new year of 2002, the country's president said, "We will become a leader in broadband penetration in my administration." We haven't heard a message quite like that coming out of Washington recently.

Q: How does this impact jobs?

A: So, we talk about globalization and outsourcing, and what IT allows, when you talk about big pieces of connectivity, fiber-optic connections that go around the world, it allows us to do things like call centers in India and outsourcing technology. What we have seen from the serious economic reporting is that this outsourcing activity, rather than just taking jobs from the United States, builds an even higher level of economic activity that in fact keeps jobs in the United States and builds jobs elsewhere. So, it's not a zero-sum activity. Basically, greater levels of IT penetration allow you to build a larger work force across the globe doing more things.

Q: Who's doing this well?

A: Well, internationally, you look at cities. And, I lived in Seoul. And Seoul is a place where you are able to use broadband wireless fidelity Internet in the subway while it is going through a subway tunnel at 30 miles an hour. You are also able to go up to a Coke machine and use your cell phone to buy a Coke without any pocket change, too. It's a digital society, with pros and

cons, but they have made many of the leaps to being a more digital society in South Korea. A number of communities in the United States have decided to do municipal wireless fidelity connections, "muni-Wi-Fi." The idea there is that it will make the city, as I mentioned before, a more attractive place to live and work. There has been a scope issue on this. Some large cities have tried this — Houston has tried this, Philadelphia, Chicago — there have been initiatives for big cities to try to bathe their entire region in wireless connection. What we have seen thus far is the smaller the city, the higher the chance, especially if a major university is resident there, that the city will be able to pull off some sort of plan where they provide a wireless Internet connection across some area. So you see places like Blacksburg, Virginia, and Tempe, Arizona, that can do this. But they are university towns — there are a number of stakeholders who see it's a really good idea for them in that place.

Q: How does digital convergence play out?

A: It's really about how information technology allows civil servants — the police, emergency and rescue crews, the folks who go around make sure that the sewers don't back up — helping them to do their jobs better. So, the idea is every police cruiser now in the city of Houston I believe now has some sort of computing device in it. There are probably exceptions in the yard someplace, but we won't delve into that. So, there are computers out there and computers are powerful devices. So when a police officer makes a traffic stop, in the old system, which is a radio-based and a proprietary system which was set up to communicate data — you know, put in a license plate and they will get a bunch of text. Well, that's good, but on a traffic stop, wouldn't it be better to put in a license plate number and get a supposition of who has the registration, pull up their driver's license data and have a picture and know, "Oh, this is the person who is in this car." There are privacy issues in all this stuff, and that's something we are going to have to discuss as each piece of this goes forward, and we always have to pay attention to that. But, it enables the police officer to know much better who that person is. And traffic stops are about the most dangerous thing a cop on the beat can do. And, for them to have the best possible information before they go out there, and have an interaction with someone who could potentially be very dangerous, is the Holy Grail for that kind of activity.

Q: What are the challenges?

A: Now on the con side, the question is, "How do we build a network?" We have competing ideas for what networks we want. Do we want fiber optics going everywhere? Do we want to use wireless connections that go far beyond cell phones and what we are used to using in the wireless domain? And the question is, "Who is going to build it and how is it going to get paid for?" It is a pretty simple issue. The answer, however, is very complicated. Do you allow one company to come in and build everything and have a monopoly? Do you bring in competition in one way, and if so, how? If you are allowing competition, how can the government regulate? So, that's the issue. And when we look at that, we look back to 100 years ago, when we were building out the telephone system and say, "Well, how did we get one telephone system?" Because something that is not well understood is that 100 years ago, you had, if you were in a city somewhere in the United States, you had a good chance that there were two telephone companies and you'd have to buy a phone line from two companies so you could talk to everybody you knew. And that isn't an analog for today, where we have wireless connections, we have satellite connections, we have different cable, and DSL and fiber-optic connections all out there. And you have companies competing with different networks they are building, but all trying to sell an increasingly homogenous set of services. And the con is, "How do you build out the next generation of infrastructure with this kind of activity going on?"

Q: Who are the players?

A: It's an interesting mix now. When we look at the telephone system, Bell, the original phone company, held a patent and enforced that patent for a period of time and built out big pieces of a network and then was eventually able to create a national monopoly, a regulated monopoly on the concept of universal service. And universal service was something people really disagreed about 100 years ago. But, it was a political issue 100 years ago. And, now we are having a similar set of debates. Should everyone have a broadband connection? Will this be a net gain for our city's population? And, you have people who say yes, you have some who say no. But what is more complicated now is that you do have corporate players out there, like AT&T, who is still out there and who is a Texas-based company, and you have cities and states and the federal government all working on policy. You especially have municipalities, cities, in other words, saying what they'd like to do to make their cities more livable. So the idea is, we give away

wireless Internet for free in common spaces, and that will attract more people to come live here. Because, if you go to the park in Houston, you can flip open your laptop and you can be telecommuting immediately or some idea like that.