Challenges in the planning of international communications

by DAVID J. HORTON
Hawaiian Telephone Company
Honolulu, Hawaii

It's difficult sometimes to realize how far international telecommunications have come in 20 short years. As recently as 1957, "Hawaii Calls" was broadcast using HF radio. After the program was switched to transpacific cable, simulated fade had to be added to recapture the flavor of "music from the isles." Today we've progressed to the point where we can provide a small store on Molokai with on-line data communications to a data base in Paris—at low cost and virtually error free.

I'd like to explore with you the environment under which all this achievement came about and to examine some real areas of concern which may inhibit continued progress. While some of my remarks may apply generally, my emphasis will be on data communications in the Pacific Basin.

I have a very simple definition of planning: A process which results in spending the right amount of money, on the right amount and right kind of equipment at the right time. The definition is simple; the process, alas, is always difficult and rarely perfect. Planning in the face of rapid technological change and everchanging market needs is particularly tricky. When the international dimension is added, the complexity reaches quite awesome proportions. Yet, decisions must be made or opportunities will be lost and/or needed services will not be provided.

Let's look at some of the elements that enter the picture when we go international:

— Apart from the obvious problems of language and cultural differences, we must recognize the different ways that telecommunication is viewed in different countries. In North America for example, we aim for the lowest possible cost consistent with good service and a fair rate of return. Most other countries are inclined to view telecommunication as a source of high profit with which to subsidize some of the weaker operations, most notably the postal service.

— Political considerations cannot be ignored. Here we must be concerned not only with political ambition, but with the opportunities of political progress. We can contemplate, for example, the phenomenal increase in communications which would accrue from full trade with the People's Republic of China.

— We must concern ourselves quite deeply with some of the reservations being expressed regarding the presence of data bases in foreign countries. Not only is this viewed as an unnecessary import, but there is very valid worry regarding what is left of our privacy.

— Markets are different as we travel around the world. We find different terminal types, different protocols, and different speeds—happily, however, major success is being achieved in the area of international standards. I can think of no area more deserving of our continued attention than this. We, as carriers, have a profound obligation to ensure a high degree of uniformity in the networks we design for Spaceship Earth. We have the skills, and we have the vehicle (CCITT)—we will have no excuses for failure.

— Geography differs widely, as is obvious when one compares the wide open spaces of Canada with the density of population in the Netherlands.

— In satisfying customer needs with new equipment, it is frequently not enough that it was invented "here", but it also must be designed here, developed here, manufactured here, sold here, and serviced here. And, often the customer must wait until these national objectives can be satisfied.

— And finally, planners must contend with all of the unpredictability inherent in the presence of extensive competition for international telecommunications.

But, complex as it may be, planning must continue. Good planning is essential and plans, once agreed, should meet time and cost targets or both carriers and customers will suffer. This is particularly true of international planning where the inability of planning members to fulfill their commitments can cause considerable difficulty for their correspondents.

International planning in telecommunications has had its problems to date but has nothing to be ashamed of. It is interesting to recall that the first major achievement was the laying of the telegraph cable between two countries which today provide the butt of many a joke; namely, Newfoundland and Ireland—and that this occurred in the year 1856, 20 years before the invention of the telephone.

Progress since then has been quite rapid (with most of it coming within the last 15-20 years) to the point where we now have extensive cable and satellite facilities encircling the globe.

At the 6th Annual International Conference on Planning, held last fall in Honolulu, we were treated to paper after
paper about the growth in the Pacific Basin with special emphasis on the emergence of Korea, Taiwan, Singapore, and Hong Kong as “new Japans” with all that it implies in terms of increased trade and thus, telecommunication traffic. It is obvious that good planning is essential if we are to meet the emerging needs of customers in these Pacific Rim countries.

Thus far, we’ve gone through a progression of complexity: fast moving technology; increased and changing market demands; and a high requirement for international cooperation. We must now add yet another challenge—international data communications.

The past few years have seen explosive growth in international data communications and with the advent of packet switching, this growth will continue at an ever-increasing pace. This latest technological wonder which has been with us a very short time finds its roots in the ARPA network but its branches now encircle the world. At last count, there were almost 20 such networks in service or about to be in service.

Packet switching respects no boundaries. It was internationally almost before it became domestically available. The Atlantic was the first pond to be huddled, and we have today extensive access to North American data bases by European customers. Similar plans are already well under way in the Pacific area.

Technologically, packet switching is a hyperactive child, constantly exploring new possibilities—and now and again getting itself in a little trouble. The pace of technological change is higher than in any other area of telecommunications and with the introduction of microprocessors, we find ourselves using third generation technology within three years of the first network going into commercial service.

Data communications customers are a demanding breed—demanding that new technology be introduced fast, demanding shorter time frames than they have traditionally been promised, demanding the features that they need, and perhaps most importantly, attaching a very valid threat of taking their business elsewhere (or doing it themselves) if these demands are not met.

There is of course much to be done, and I’ve touched on some of the tasks:

- harnessing the right technology to meet real market needs
- standards
- international dialogue

One area, however, which could become a major stumbling block is not within the carriers’ control. I’m speaking, of course, of regulation, or more precisely, the regulatory process.

Let me suggest that regulation is here to stay and that it will probably get worse before it gets better.

In a December 1977 Time magazine, President Carter was quoted as follows: “Regulations should be as simple and clear as possible. They should achieve legislative goals effectively and efficiently. They should not impose unnecessary burdens on the economy, on individuals, on public or private organizations, or on state and local governments.”

How about that? That was in December 1977. You all notice the big improvement?

To be fair, the problems are not entirely the fault of the FCC. Once the decision is made to have controlled competition as opposed to a monopoly, it follows logically that there will be a greater workload. It is the FCC’s inability to handle this workload that causes so much pain, not only domestically, but also with our partners in other lands. At a meeting of Pacific cable operators held in Honolulu at the Kahala Hilton Hotel in September 1977, all countries expressed dismay at the regulatory lag caused by the FCC. In one cited example, a submarine cable cut into service one and one-half years late and cost $40 million over budget as a result of this delay.

And, if I may use an example much closer to my own experience, let me tell you that from the start of the initial discussion with Telenet until the installation of a working node in Honolulu, less than three months expired. More specifically, from the placing of the order to the acceptance of installation was a mere six weeks, or more specifically, still, from the delivery of equipment to turn up (capable of providing service) five working days expired. By comparison, our request for approval to construct was filed on August 12th, 1977 and approved about December 15th with an effective date of January 3rd, 1978. I think you can imagine the disappointment that is caused to carrier and customer alike as a willing switch capable of earning revenue sits gathering dust as the paper flows around Washington. This is simply not adequate regardless of what the problems and what the excuses are.

The fact is that whether we like it or not (and I personally do) technology is moving fast and market demands are increasing daily, resulting in the need for fast response from carriers both domestically and internationally. The regulatory process must keep up.

How do we do this? I wish I knew.

I don’t believe that simply increasing the staff at the FCC is the answer. So let me offer some suggestions which may be of help:

1. Establish guidelines and policies for international telecommunication.
2. Clarify the roles of individual carriers if in fact there are any valid reasons for segmenting the market among them.
3. Anticipate the effect of technological likelihoods, and
4. Based on carrier-provided information, anticipate the kind of action that market demands will require not only of the carrier, but of the regulatory process itself.

Let me give you an example:

We’re now in the middle of an extremely costly exercise called Computer Inquiry II. There’s a great deal at stake and some very vocal and widely different views are being expressed by various lobbies. What bothers me most about this is that it’s only six years since we were presented with the wisdom we have come to know and love as the computer.
inquiry. But it wasn't the computer inquiry—it lasted a mere six years. Why? Mainly because its authors failed to understand where technology and the demands of the market place were taking us. And at the very moment in history when everyone finally realized the line between communications and data processing was a broad blur, the FCC presents us with a definition which claims to draw a major distinction. It's thus difficult to be optimistic that CI2 will be a big improvement on its predecessor.

Let me stress again that we must have a thorough understanding of what technology can do, what the customer wants, and what the various vendors are trying to achieve. We must then produce regulations that are fair, of course, but which stimulate innovation and keep prices as low as possible. A difficult task, indeed, but one which must be undertaken. I believe the carriers themselves should play an active role in trying to streamline regulation. I would hope that both they and the FCC would welcome this.