Implementing ONA:
Federal-State Partnership Needed
To Connect Network Of Networks

PERSPECTIVE

BY ELMH. NOAM

State regulatory commissions have
only begun to explore Open Network
Architecture. New York and Maine have
proceedings, California is a test case, and
several others have studies under way. Some
states harbor suspicions of any idea initi-
at ed by the FCC, while others favor ONA
as an attempt to unchain the Bell operating companies. The
FCC, for its part, sends out mixed messages to the states
regarding its intentions.

Unfortunately, these perspectives, supplemented by conflict-
ing invocations of jurisdiction, will not get the issues developed.
In a narrow sense, ONA is a process of granting equal access
to enhanced service providers, or ESPs, while allowing provi-
sion of enhanced services by the BOCs. But understanding ONA
requires a broader context. For two decades we have witnessed
the erosion of a centralized and uniform monopoly network.
Public policy models fundamental trends based on changes in
the underlying economy and technology. These changes were first
manifest in the United States, later in the United Kingdom and
Japan, and are now reaching Western Europe. What is emerging
to take place is a fragmentation of institutional, technical and legal
componentry, which may be best described as a network of networks, serving
different regions, user types, and software layers.

Whoever controls the rules of interconnection controls the
network system itself. ONA deals with interconnection on the
level of exchange services, and is the next logical step in the
evolution of the network. The question is who controls the rules
for such ONA interconnection: the FCC, the states, or both.

For the FCC to establish a federal predominance over inter-
connection on a nationwide scale is to establish federal control over
local networks themselves; the contradictions in treatment of
largely identical service elements would not permit a stable dual
regulatory system to exist over time.

This leads to four major options:
1. An expulsion of the states from the area, which would
create major political battles, deprive the policy field of a major
source of innovation and experimentation, and eliminate an
important element of policy stability.
2. Full federal withdrawal, producing a telecommunications
Lebanon facing a world of telecommunications Japan...
3. Non-cooperative coexistence, characterized by continuing
litigation, delay and uncertainty, manipulation by various indus-
tries' self-interest, and ultimate instability.
4. A collaborative approach, which establishes a balance
between national uniformity and regional diversity.

Once Innovative, Now Cautious

There are, of course, important industry groups who desire
uniformity in policy to facilitate technical standardization. But
these parties usually are counting the obvious benefits without
considering the hidden costs in terms of lost innovation and
flexibility. A more careful analysis is needed for a system in which uniformity and diversity coexist.

There was a time, only about two years ago, when several
regional Bell holding companies embraced ONA as a vision of
the future. Some of their Computer III filings before the FCC showed
improvements in their existing plans, hinting deregulation and entry into information
services on the opening and disaggregating of central office func-
tions. Perhaps for the first time the Bells proposed making it easier
for competitors to access the network. They seemed to understand
that the health of the network was in their own best interest.

But now, in their February ONA filings, the Bell companies
have revealed considerably more caution. (In fairness, the FCC
gave the regional holding companies little time to plan or
implement.) Hence, the plans, while a step in the right direction,
concentrate on the here and now, and largely repackage existing
offering or these features already contemplated.

Possibly, Judge Greene's initially more negative holdings on
Bell participation in information services also had an impact. Possibly,
too, the Bells wanted to keep down the cost of the unbundling process.
Whatever the reason, the filings do not explicitly deal with several of
the longer-range implications of ONA.

These long-range effects include:
- future competition in exchange services, including poten-
tial encroachments across franchise territories by other local ex-
change carriers;
- enhanced possibilities of bypass and of private networks;
- built-in services between the two main functions of local
exchange carriers—local transport and exchange—which could
lead in the future to full-scale interconnection;
- and a move towards a "distributed" rather than centralized
physical architecture of central office functions.

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This could also include a wide array of interconnectors such as
AT&T; other interexchange carriers; long-distance resellers, facili-
ties bypassers; private networks, independent telcos, cellular oper-
tors, radio common carriers, BOCs, and even foreign carriers.

There are major ramifications. For example, bypassers could
transport interstate traffic (for their own or leased lines) to
the local telco's exchange, have it switched there, and take at least
the interstate part (depending on state rules) of the rerouted traffic
to its destination. Similarly, they could use the telephone companies' subscriber lines and switches to assemble their own networks.

The distinction between private fixed networks and public
switched ones would blur further. Competitive regional and local
exchange companies would emerge. And LECs may start to
compete with each other for the business of switching the traffic
of bypassers, independent telcos, or cellular operators. Similarly,
interexchange carriers could be placed on a "more effective"
network.

These are ONA scenarios for the future, though not a very
distant one. They make participation more readily possible for
small users. These changes must not be viewed as necessarily
negative if they would lead to substantial technological
innovation and cost efficiencies.

In any event, if the experience of two decades is to guide,
such developments cannot be prevented in the long run by regulatory
means. But when can be changed to affect an orderly transition.

To deny states a role in this issue is to deny them their ability
to affect the nature of local service. But to leave ONA interconnection
entirely up to each state could create unacceptability. Local service is
unfortunately, a state concern. Here, this temporality overlaps with
a federal policy of assuring unobstructed interconnection.

Next Week: Is this what the FCC meant by "unbundling"?

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BSEs? BSAs?
Federal-State Teamwork
Is Key To Juggling ONA Issues

PERSPECTIVE

BY ELI M. NOAM

Second Of Two Parts
The FCC intended Open Network Architecture as an aid to competition and innovation. A fundamental direction was that local exchange companies unbundle exchange services into discrete basic service elements, or BSEs, that could be bought separately and as needed by users. However, apparently to prevent pure transport interconnection that would permit the piecemealing and bypassing of their networks and challenge the existing pricing structure, the regional Bell holding companies now uniformly seek to establish something called BSAs, or basic service arrangements.

BSAs consist of two or three elements: an access link from the interconnector to the central office, basic office functions, and, sometimes, transport between central offices.

Different types of BSAs are offered, analogous to present access-line arrangements, such as circuit- and packet-switching service or private-line circuits. By establishing BSAs the Bells in effect side-step an important part of unbundling. To mix metaphors, they unbundle the bell and whistle, but not the meat and potatoes. Basic switching is not considered a BSE; only the feature add-ons are. Thus, in order to get a BSE, one first needs a BSA, and sometimes a particular BSA, such as a private line.

The Bell companies, according to their filings, may reject requested BSEs because they are technically infeasible, impractical to unbundle or to bill, are uneconomical to provide, require excessive customization, are out of bounds under the countenanced divestiture rules. In some Bell plans a potential factor for rejection includes a negative revenue or technical impact on already existing or potential services.

It is important to recognize just how complicated these questions are. How finely unbundled should BSEs be? How fast should they be deployed? Who should pay for their development? How standardized should they be across the country and across customers? How customized can they be, and how should they be distributed? Can BSEs be retail? What should the extent of facility unbundling be, when at the same time technological forces strengthen the importance of integration, such as in ISDN and integrated broadband networks?

Coordination, Resolution

Unavoidably, friction will develop in the process of developing and implementing ONA. A key element, therefore, is a system of dispute resolution.

States do not favor the Federal-State Joint Board arrangement as a model for cooperation, because it leaves the FCC in the drivers seat. Given the federal agency's view that local exchange issues are part of its traditional jurisdiction under the 1934 Communications Act, the FCC insists on parity at the least.

An ONA coordinating mechanism could have a form such as the following dual system:

(A) An intergovernmental ONA forum of the FCC and the states, a body charged with coordinating the various jurisdictional policy interests. It could, for example, establish a hierarchy of uniformity, by defining certain basic functions whose national uniformity is deemed essential and establishing others where regional or local diversity is possible. States regulators may want to constitute themselves into regional forums—again with FCC representation.

(B) A private-sector ONA forum, which would include a balanced representation, including local exchange carriers, exchanged-service providers and equipment manufacturers, as well as telecommunications users, both commercial and residential. The TI Committee is one model. This body would be responsible, in the first instance, for technical coordination, standards, BSE definitions and dispute resolution. It would operate in a flexible and informal fashion rather than be bound by the traditional regulatory processes. Agreements would be reviewed by the intergovernmental ONA forum and forwarded to the FCC and the states for their adoption, if the respective regulatory bodies so choose.

In those cases where the private-sector ONA forum could not reach agreement within a specified and fairly short period, mandatory arbitration would govern. On issues of great importance the intergovernmental ONA forum might choose to make the initial determination instead of an arbitrator.

Pricing

The Bell companies seem to accept the prospect of state regulation of ONA pricing. On the other hand, most enhanced-service providers maintain that they want nationally uniform rules and rates, service definitions, interfaces, installation, even administrative procedures—least for "standard" BSEs.

This is understandable interest on the part of ESPs, many of which are fledgling firms that desire comparability and portability around the country. But the need for national uniformity in pricing of BSEs and BSAs is not as compelling as for, say, basic protocol standardization—as long as pricing is not used to manipulate the competitive environment. It makes no sense to have uniform prices or pricing rules across the country without regard to local costs, conditions of demand, alternative offerings, technological state of the network and demographic and economic characteristics.

No doubt, the desire for national uniformity will lead to calls for a federal pre-emption of conflicting state pricing regulation. But such pre-emption will not work, because it cannot be limited to ONA. It would establish prices for BSEs or BSAs at the levels of those from comparable services presently tariffed by such states for interstate use. This creates the potential for arbitrage and conflict.

One can therefore have uniformity only if one pre-empts state tariffing of most services, and not just of BSEs; in other words, if state rate regulation is largely cut off. To do so would be an unprecedented challenge to federalism in telecommunications regulation, and would be wise in almost any respect. Furthermore, because price determines the quantity of demand, taking pricing out of states' hands also denies them an essential tool for another of their traditional goals, that of assuring universal service.

A large number of questions need to be resolved. Who should (ONA, Continued on Page 48)

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Persecution: ONA Requires Federal-State Teamwork