Innovative Approaches to Partnering Bring Value To Level 3 Network and Broncos Stadium Projects

By Bill Spragins, Director

Over 10 years into the introduction of partnering into the industry, seasoned partnering organizations are still implementing the process, but are using hybrid approaches that focus either on specific activities, specific focus groups, specific processes or some combination thereof to derive maximum value from the concept. The Level 3 Network Build-out Project and the Broncos Stadium Project are two projects that have used hybrid approaches successfully.

On the Level 3 project, the hybrid effort was focused toward the relationship between Kiewit Network Services and Union Pacific Railroad. For the Broncos Stadium, the partnering effort was focused toward revamping the bi-weekly "owners/joint venture meeting" to include subcontractors on a regular basis in the team field reporting on goal achievement.

The size and complexity of each of these projects demanded an approach different than the typical one- or two-day kickoff session the industry has been accustomed to. While throwing every conceivable stakeholder together in a room to craft a mission statement and do some problem solving may provide some value (at least everyone gets to meet each other), chances are that you will never get a true commitment from all of the attendees to the process. At best a small percentage of the participants will truly get it and carry forward from the conference room and apply the principles of partnering. A better approach would be to start with a smaller senior group of leaders (15 or less) and then strategize the most appropriate application of the process.

Stakeholders on the Level 3 Network Project included Level 3 Communications (owner), Kiewit Network Services (contractor), and Parson Brinkerhoff (design/engineer). Level 3's business plan included the building of the first international end-to-end Internet Protocol (IP) technology based network. This included building local networks in 56 U.S. cities. Kiewit was hired on to build the $2 billion North American side of the network, utilizing design-build.

An IP based system is a packet switched system versus circuit switched system. The traditional network used by phone and telecom companies has been circuit-switched, which dedicates capacity for the duration of the connection. This ties up a dedicated line, which therefore uses available capacity inefficiently. The IP network is packet switched, which shares available transmission capacity among all users and is a more efficient utilization of capacity. Kiewit's challenge was to design and build 16,000 miles of system and 69 city to city segments in two and a half years, do it safely, and do it in a quality fashion (Exhibit 1). The end result was 1.7 million fiber miles were installed for system startup on January 1, 2001.

On a project of this magnitude, where do you even start partnering? The answer lies with focusing in on the most critical relationship where the largest amount of risk is at stake. While the Level (3)-Kiewit relationship was important for obvious reasons, the other critical relationship had to be with the organizations who control the right of way (ROW) where the ductwork would be installed. On this project that led to the railroads, where 40-50% of the systems ductwork was to be laid along the tracks. Of the railroads, Union Pacific owned ROW on approximately 40% of the system to be installed, and that relationship is where partnering was focused during the early phases of the project in the summer of 1998.

While Level 3 and Union Pacific had a contract, and Level 3 and Kiewit had a contract with each other, it would be the field personnel from Kiewit and Union Pacific that would need to interface and work together to get the project done. The partnering strategy was a two-phased approach. First, executives from Kiewit and Union Pacific held two sessions six months apart and then the process was taken out to field personnel on three different areas of the project (Colorado-Wyoming, Phoenix-El Paso, and Texas). See Exhibit 2.

The executive level partnering sessions were held in Omaha (location of Union Pacific Headquarters) in August of 1998 and in Golden, Colorado (Kiewit project headquarters) in April of 1999. These sessions included representatives from Level 3. Of high interest to Union Pacific was doing the project safely next to active railroad tracks and ensuring the ductwork was installed in a quality fashion. Issues of high interest to Kiewit also included safety and quality,

but also included the assurance that decision making in the field would be done in a timely fashion so that timelines for each segment completion were met.

At the area level, agendas focused on understanding the organizational structures of each stakeholder, understanding the interests and risks of each party, and identifying critical rocks to achieving a successful project. Major rocks discussed at each of the first three sessions included how to best utilize the limited number of Union Pacific railroad flaggers to maximize construction efficiency, training procedures for work on live railroad tracks, and consistent interpretation of drawings among supervisors of all parties. Action plans to these issues were followed up on in the regularly scheduled coordination meetings and monthly managers meetings within each area. Additionally, lessons learned and actions developed at these sessions were transferred to other areas around the country. This exchange of information was helpful considering that at the height of construction, there were as many as 350 locations where work was in progress simultaneously.

Results? On January 1, 2001 conduit installation was complete on 98 percent of the total planned North American inter-city network, including those segments involving Union Pacific ROW. Mission accomplished! With the network infrastructure complete, the Level 3 system is the first to be fully and continuously upgradeable, enabling Level 3 to continue to deploy new, superior technology as it is developed. According to Pete Miller, Kiewit's Program Manager, partnering with Union Pacific was helpful because "executives of the stakeholders were committed to follow-up and to escalating and resolving issues."

On the $384 million Broncos Stadium, now known as Invesco Field at Mile High, a different set of challenges faced the stakeholders, whom included the Metropolitan Football Stadium District (MFSD), the Denver Broncos, Turner-HNTB (design-build joint venture), and a number of subcontractors. The objective was to deliver a world-class stadium with a local personality that still retained key features from the original Mile High Stadium, including seating proximity close to the field and the ability for fans to create a lot of noise with foot stomping.

Early challenges that the team faced included land acquisition delays, which forced the construction of the stadium into eight sections as each parcel of land became available, and a re-design substitution for the concrete concourse slabs. Concrete work accounted for approximately $60,000 million of the total budget.

Similar to the Level 3 project, senior management avoided the large "group grope" partnering session where every conceivable participant (internal and external to the core stakeholders) is brought in for a kickoff session. The sheer number of subcontractors, vendors, and external agencies associated with this project would have created an unmanageable group size to hold a traditional one- or two-day workshop. The question then became, how do you develop and implement a process that will involve all critical stakeholders, including subcontractor representation, but do it in a structure that ensures active participation of all?

The team chose to apply the principles of the high performance team process, and developed a multi-step approach that would support and integrate into the existing meeting structure of the project (Exhibit 3). The process was initiated at the executive level, where 15 key leaders representing all stakeholders met for a series of "mini" partnering sessions (four hours each) to develop partnering strategy for the project. Critical issues that surfaced during these three meetings included the management of the design-build process, which was a new approach to project delivery for the MFSD, and the associated shifts in roles, responsibilities, and risks of the stakeholders. Other issues included establishing expectations on how the team would manage all components of the project toward the $384 million budget and how to ensure the final look of the stadium would address both Broncos fans and still appeal to the general public (75% was funded by local taxpayers). Once the executives finalized the mission and goal areas (Exhibit 4) and were confident that key issues were addressed at their level, the process was ready to move to field level management and the key subcontractors.

To stress collaborative accountability and actively involve subcontractors, executives established a model that broke the team into four sub-teams representing key functional areas that would each report progress toward achieving owner/joint venture team goals once very six weeks at the bi-weekly meeting (see Exhibit 5). Those functional areas were structure, MEP and concessions,

site, and architecture. Prior to initiating this version of the Stand & Deliver process, a four hour session was held with Turner/HNTB field leaders and key subcontractors to establish expectations for the process, identify champions for each goal within each functional area, and agree on the format and content of goal metrics that would be reported on.

Executives reformatted the agenda of the bi-weekly owner/joint venture meetings to accommodate the report-outs. When the process was intiated in the first quarter of 2000, each of the four discipline teams were allotted 60 minutes to present goal metrics, answer any questions on progress, and be given the opportunity to ask for assistance from the executive team on any issues threatening team goals. Subcontractor representatives led a number of the presentations, a departure from the traditional hierarchial reporting structure of a project.

"The Stand & Deliver sessions have been an excellent forum for junior staff and the subcontractors to show that they are truly part of this team," said Gene Fatur, the project manager for Turner. "It has much more meaning for the guys in the trenches to report out than it does for us at the more senior levels."

Results? The team objective of completion of the project by the Broncos first home exhibition game of the 2001-2002 season in August will be met. Quality expectations that include the features of the original Mile High Stadium have been incorporated and to date the project is at or just under the budget. The Broncos are ready to move into a world class arena that will also serve the Colorado general public well into this century.

Both the Level 3 Network Build Out Project and the Invesco Field at Mile High Project illustrate how the partnering process can be implemented in completely different project circumstances and with different strategies to achieve project team objectives. Both project teams embraced the following common concepts to achieve success with the process:

Maintain executive level support and involvement
Identify critical pieces, teams, and risks of the project—the leverage points
Build the process around the leverage points

Keep sessions smaller in number of participants versus larger
Make it a multi-step process versus a one- or two-day event
Integrate partnering with existing methods of information exchange
Build follow up into the process at every step

These projects also demonstrate that for innovative minds the partnering process still holds a lot of relevance in this ever changing industry and can provide a lot of value when properly implemented.

Exhibit 1

Level 3 Network Build-Out

The challenge—project logistics

- Fiber/duct installation—15,426 miles
- Boring—1,127 miles
- Trenching—3,591 miles
- Rock saw—543 miles
- Plowing—7,082 miles
- Fiber miles—1,711,697 miles
- 150,000 as-built drawings

Exhibit 2

Level 3 Network Build-Out
Kiewit/Union Pacific Partnering Strategy

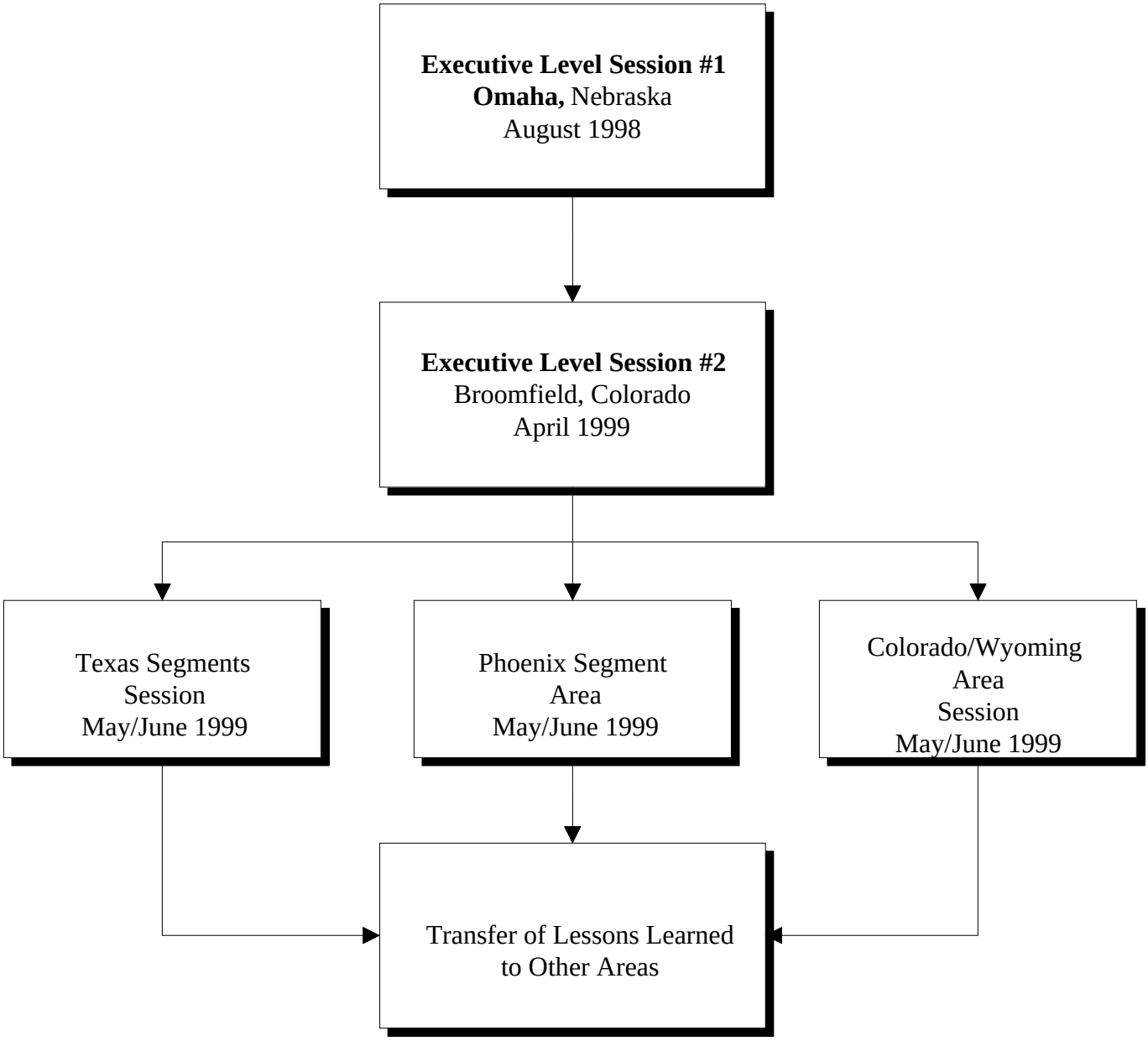

Exhibit 3

New Broncos' Stadium
Invesco Field at Mile High
Partnering Strategy

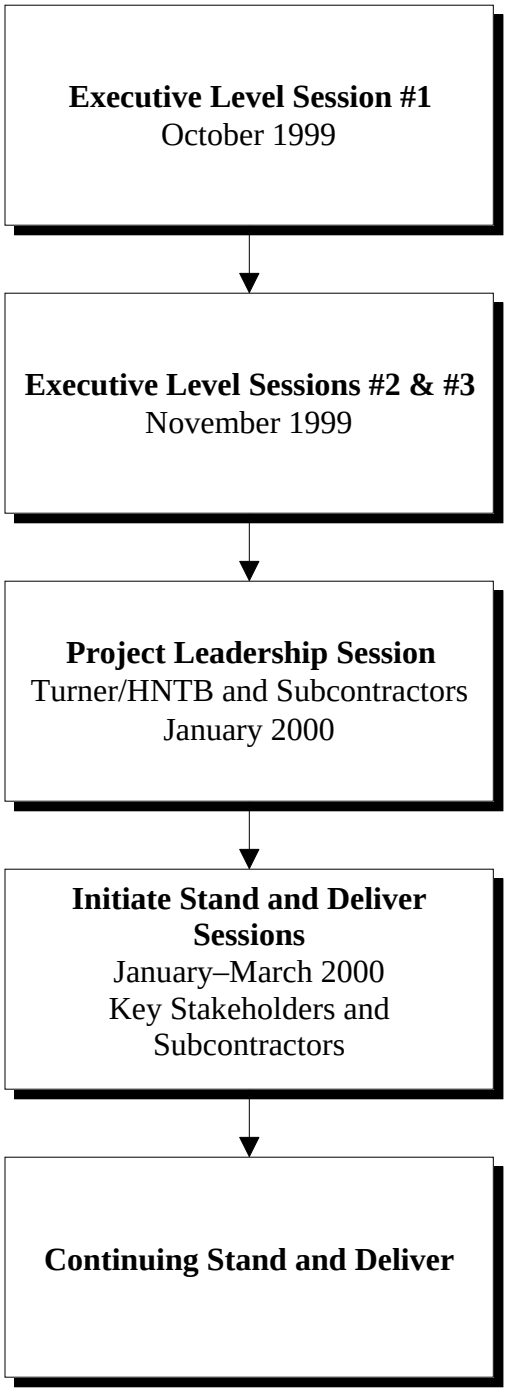

Exhibit 4

New Broncos' Stadium
Invesco Field at Mile High

Project Mission Statement

The mission of the stadium project team is to provide the fans and citizens of the region with a beautiful, comfortable, entertaining, and exciting destination.

The team is committed to building a quality project safely, on budget, with local community involvement, through open and honest communication, which brings maximum enjoyment and a sense of achievement for all participants.

On opening day—August 25, 2001, we will provide a project that is a source of civic pride for the Broncos and the community.

Goals

Schedule/Time/Safety

- Football ready on August 25, 2001
- Highly protective/zero injuries

Budget

- Effective use of the budget

Quality

- Highest level craftsmanship
- World-class design
- Appropriate material selection

Trust

- Maintain open communication and trust between all parties

Value

- Highest impact for each dollar spent
- Consider the long-term operational and maintenance issues

Experience

- Enhance and build on the Bronco's fan experience
- Create an exciting patron experience

Public Endorsement

- Positive recognition of the process, end product, and community impact

Exhibit 5

New Broncos' Stadium
Invesco Field at Mile High
Stand and Deliver Reporting Structure