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Redesigning Space in Time

Scaling up to SOCOG's Space Mountain

Large-scale corporate relocations and reorganizations can become monumental tasks for managers and staff performing space allocation. Managers struggling with the space management implications of such a corporate effort would do well to take heed of the experience of Marc Klein, program manager for the Sydney Organizing Committee for the Olympic Games (SOCOG), Olympic Village Support Operations. He is charged with managing the space and building asset demands of the massive Sydney 2000 Olympic Village in preparation for the Sydney 2000 Olympic Games taking place September 15 - October 1, 2000.

The construction of this Olympic Village is the largest such project in history. It will result in the creation of an entirely new Sydney suburb called Newington, complete with its own postal code. The bulk of its initial population will arrive within a single fortnight and move out again just as quickly afterwards, only to be replaced within a week by a whole new set with even more exacting needs.

Sorting out the complexities

In simple statistics, the complexity of Klein's task almost defies

"At a nuts and bolts level, we can query the ActiveAsset Planner database and ask ‘Where is vacant space that is greater than 20 square meters?’ or ‘Where in our property portfolio do we have leases that fall due within the next six months?’" *–Marc Forestieri, manager of the Villages Space Planning & Facilities Management System team.*

"...We have to basically outfit, completely move in and set up two suburbs’ worth of goods with $25 million worth of furnishings and $60 million worth of technology. I will get one or two hours notice of a final allotment of space...When the athletes show up, I need to be standing at the door with the right keys and the right inventory."

–Marc Klein, program manager for the SOCOG, Olympic Village Support Operations

comprehension.

The village will be purpose-built to house more than 15,000 people for over 30 days. More than 10,000 staff members will be required to operate the Olympic Village over a 24-hour period, with over 4,000 working at any one time. Each day, more than 3,000 guests will visit the Olympic Village, creating a total population of approximately 22,000 at any one time. This will make it the sixth largest city in New South Wales.

In addition, there will also be a media village. A major hotel almost anywhere in the world would normally house 500 to 1,000 people, but SOCOG’s media village will be required to support 6,000 people in various styles of accommodation.

Nor does it end there. Seven days after the official close of the Olympic Village following the Games, Klein’s team must then have successfully reconfigured two thirds of the site in readiness for the Paralympic Games. The Paralympic Village must house over 7,000 people, including 1,500 wheelchair athletes. Every building and office space will need to be reset and several completely reconfigured with specific layouts as requested by specific Paralympic teams.

The complexity of the task is further accentuated by one major factor: The support staff will not know how many athletes are coming – until they turn up.

"It starts with the fact that we have to basically outfit, completely move in and set up two suburbs’ worth of goods with $25 million worth of furnishings and $60 million worth of technology. All the pieces have to be put in the right room in the right place in a very short space of time for us to operate," Klein says.

"But then, whilst we know all the countries, we don’t know who will qualify in each sport in each country, so the number of people from each country is in constant flux until they actually show up; then we can count heads.

"I will get one or two hours notice of a final allotment of space, and I need to be able to react to immediately. When the athletes show up, I need to be standing at the door with the right keys and the right inventory," he adds.

This task entails the complexities of calculating a whole group of parameters in the allocation of space. Klein and his team must know who will go where—that includes knowing who’s in dispute at the moment. These are all bits and pieces adding up to a bigger equation.

All of this makes the common garden variety of corporate relocation seem somewhat tame.

A ‘veteran’ of the Games, with the "battle scars" to prove it, Klein says planning for Atlanta was far more piecemeal—and prone to error:

"What happened in Atlanta is that individual people in various individual programs had a challenge in front of them, but there

was no integration of the information. The volume of changes and updates was severely underestimated. The information flow became unmanageable, the fax machines got clogged and we didn't know which version was the correct one. Changes were sometimes made that had already been superseded."

This time, however, Klein's experience taught him precisely what the job requires. He selected Bentley's ActiveAsset Planner.

"Due to the growth of the Olympics and specialized nature of the Olympic Village, I made the decision out the outset to push for an integrated space planning CAD and database system to track all the spaces and items required for all of our sites.

"One of my first steps for the project was to look for a way to integrate all of these details into one package or one system. I wanted to take the input at one end and feed accurate output to all parties who require it at the other end. I wanted this same tool to allow me to build the village," explains Klein. "What we are really talking about is building all the inventories of assets, then managing them, getting them all moved around, then changing ownership, all within in a two-week timeframe. We also need to manage them while we're in operation and then move them all out again. So we are really managing the complete life cycle of the asset."

Overcoming the odds

Specifically, what Klein sought was a system that would assign catalogued FF&E (furnishing, fittings and equipment), technology, rate card and staff to predefined spaces to the Olympic architectural space data and drawings. The system would be used to designate an "owner" or "function" to its associated space, incorporating the existing housing allocation tracking system to assign the appropriate NOC (National Olympics Committee) as the owner of specific spaces in the Olympic Village.

The system then had to link MicroStation DGN files at a room level to the database and depict the relationship of all of the foregoing to that space. The system would then enable the querying and updating of the database live from the drawing.

Finally, it was necessary to link the system to a hotel front office system to manage the hotel style functions of check-in, check-out, housekeeping and all the reporting that goes along with running a hotel.

"That was my ideal case," says Klein. "I got lucky and actually achieved just that."

Klein had already looked at many other alternatives, when he was first introduced to Bentley's ActiveAsset technology. Klein knew instantly he had found the right solution.

"When I saw the other products out there, Quantum Leap's [custom-modified ActiveAsset Planner-based] product was head and shoulders above everyone else's. It was superior in terms of functionality, both in the real-time querying and in having the

assets reside only in the database and not on the drawings. It also had a seamless interface with MicroStation."

The Villages Space Planning & Facilities Management System (VSPFM) is a critical system for SOCOG. Operating on an IBM network, the VSPFM system is now positioned to be the central repository for any other systems that need to be integrated.

Marc Forestieri, architect, founder of Quantum Leap and head of the team responsible for VSPFM, describes ActiveAsset Planner's advantages. "When it comes to building asset and space management, clients usually have information distributed across multiple databases. We use the ActiveAsset Planner environment to access information from sometimes unrelated sources into one location and onto one screen. At a nuts and bolts level, we can query the ActiveAsset Planner database and ask, 'Where is vacant space that is greater than 20 square meters?' or 'Where in our property portfolio do we have leases that fall due within the next six months?'

"ActiveAsset planner will also work with 3D models because of its strong link with MicroStation," Forestieri continues. "It is an easy thing to pick up and move partitions and recalculate space—the database is actually reading the three-dimensional model."

The thrill of victory

For Marc Klein's Olympian task, the relevance of this is plain. He describes a major part of his challenge as having "to find a product that could actually generate graphics from the database. People working on the database will be able to just add or remove furniture, knowing that the next time the drawing is printed by the people in the logistics department who actually move it, they will have the correct information."

According to Forestieri, in ActiveAsset Planner such capabilities are a given. "Most of these sort of systems deal with two different databases–they have a drawing database and a text database. This means that one always needs to have technical people on standby who can change the drawings to reflect the text database information. In ActiveAsset Planner, however, the drawing is actually automatically produced from the text information in the database. This means a non-technical person with proper authority can move an element in the text database and the next time someone calls up the drawing it reflects the changes."

But, as already described, Klein's challenges are as much

circumscribed by considerations of time as of space, with the final number of competitors from each participating nation not known until they actually arrive. "This uncertainty amounts to a large number of spaces changing ownership and sometimes configuration as the National Olympic Committee (NOC) for each nation is arriving at the Olympic Village."

"As these changes are made in a facility outside of the Olympic Village, the ActiveAsset Planner terminals inside the Olympic Village must keep up in real time with what spaces are assigned and any changes that occur. This allows our Logistics team to know when the allocation of spaces is completed and only at that time will the inventory sheets be produced and the correct keys pulled from stock. The Logistics team is then dispatched to meet the team arriving into the Olympic Village."

To indicate the magnitude of the problems of assigning space to the competitors, Klein said, "In Atlanta, over 80 percent of the NOCs had some change to their allocated space versus the model that was in place prior to their arrival. This high rate of change requires a real-time system with all the required data linked together to allow the required information and reports. This process goes on non-stop for the arrival period of 14 days."

But ActiveAsset Planner will also play a far broader role in producing all the equipment specifications needed by each vendor to install items such as furnishings and fittings into each space within SOCOG's control.

"These lists would include the exact date, time and placement of each item, along with summaries of item quantities. In addition, detailed floor plans and inventory sheets for each building will be produced from ActiveAsset Planner for use by the load supervisors and moving crew."

The gargantuan task of moving all the equipment in and out of the Village will have to be repeated all over again and the entire Olympic Village reconfigured within just seven days for the Paralympics.

"Not only must the system keep track of all the furniture that is moving out, it's also got to move new furniture back in again. That changeover is going to present the difficulty, because not even one single space will stay the same," says Klein.

To counter this, ActiveAsset Planner will be used to develop two distinct models for each space in the Village, one for the initial move-in and the second for the layout required for the Paralympics.

While just a little more predictable in its demands than the Olympics, the Paralympic's challenges are also startling.

"With 1,500 wheelchair athletes, plus the blind and the quadriplegic athletes, you've got a very different set of clients. For the Olympics, you've got a layout which tells you where the chair and table goes, but it's not quite as critical if we put a table in the wrong way because the resident can probably change it and it probably won't affect the function of the space.

"That is not the case for the Paralympics where the spaces need to be set up specifically for wheelchair equipment, or for the blind, so our layouts must be adhered to much more strongly." And he adds, "These guys are paying for their space so they do expect a pretty good level of service. And then we have to move it all out again within four weeks."

On leaving the village, all residents of the Olympic and Paralympic Village must account for all assets assigned to them. Given the tools he now has at his command, Klein believes the Sydney Olympics will be the most efficient as far as the recovery of assets is concerned.

Klein began work with the Olympic facilities designers four years before the Games take place. He considers himself fortunate to have acquired the tools both to match the job and his vision. "As our system was developed as a pilot to rapidly implement the software, we have constantly worked with our developers to refine and add features needed to achieve our end goals."

Summing up succinctly on ActiveAsset Planner's role in the planning of the Olympic Village, and with only the recently constructed Hong Kong airport to cite as a possible parallel in scale, Klein declares: "I think it's safe to say that no software has ever done this job before."

Resource Center

ActiveAsset Planner

Sydney 2000 Olympic Games

Sydney 2000 Paralympic Games

CADinfo.NET Olympic references