Dr. Wyatt shared what he believes are the three major strategic concerns regarding communication infrastructure that have evolved over the last 10 years since IT is more critical to day to day work:

1. **Struggle with aging infrastructure**
   - Infrastructure not strategically placed; glass laid in ground close to steam lines
   - Duct work overflowing – no more capacity
   - Cannot pull old to replace with new
   - Underserved areas

2. **Buildings not built to handle IT intensive environment**
   - Critical electrical shortages
   - Serious HVAC concerns from the heat created by machines

3. **Off campus**
   - Evolving partnership with city.
   - Long standing concerns about the major pathways where we get IT
   - Most everything is in the air, above ground
   - Rich with telecom (Time Warner, Grande, and Centurytel), all complete at retail and wholesale levels, all share pole space
   - Currently have redundant paths north and south, but all in the air (6 GB going to Dallas and San Antonio)
   - Worked with city one and a half years to put most of fiber in ground, city staff support this at least for major pathways
   - Have cooperation of major telecoms, 20% of way along journey

The more time sensitive concern is what’s in the ground on campus. We have one and half years left in the Grande cable contract (2003 – 10 years), need to stage discussions. Other time sensitive concern is electrical capacity.

**Goals for Strategic Plan**

1. 100% availability, no user complaints, have enough bandwidth, rework core utility pathways
2. Data center redundancy, higher level of capacity in data center, appropriate cooling/heating
3. Aggregating all utilities (communication and plant). Note – AVP Facilities has identified tactical pain points.
4. Positive environment working with facilities
5. Pulling City into IT discussions is major – need to sustain the dialogue. City just now understands how IT attracts economic development, need to have in ground before people will come. For example, Edward Gary is a major pipeline. Need to extend northbound out Aquarena to River Road and southbound out Hunter Road.

Four years away from having a high performance computing backbone. Cannot say what needs will be over the next ten years. Currently only 5 faculty working on HCP but will grow significantly. Need to be able to move to shared services.
Participate in LEARN, a statewide consortium with 37 institutions. 10GB network scaleable to multiple Gigs. Have bandwidth in Internet 2.

Need to get fiber underground. Most costly is on campus because of the age.

Building a third data center in the University Parking Garage, 4200 sf. Have other data centers in JCK and MCS – industrial class, capable of handling shared services. Do not have redundancy with these though - one way in, one way out.

Hope to coordinate with Facilities and IT to put in additional paths to buildings to reach redundancy. Currently cannot provide service if a line is lost. In many cases only one feed and one pair of fiber.

Have grown up in ad hoc fashion. Need to tactically plan, be together at the table, do it right not just with future projects but also identify new paths.

Have shared service agreements within the Texas State University System.

With enrollment growth what are the pressures?
- Technology support – bodies
- Not losing enrollment because we are not providing certain services
- Having infrastructure support and reliability of technology (OK here)

How are dollars obtained?
- Base budgets have been sustainable and decent
- Dollars associated with tactical plans
- Very good partnerships
- Students assessed technology fee, provides 60% of the total budget
- Maintain robust reserves but do not budget for emergencies
- Plan carefully to expend annual funding

Concerning the major pathways needed – how we would fund?
- Infrastructure financial issues are not IT problems, all go in the same holes
- IT responsible for when it hits the building, not the building edge to campus edge
- Need to be involved in the planning; however. Will provide the glass and labor to pull it
- Have the M&O source but not the capital source

Known Needs:
- Need East/West and North/South pathway for major pipes.
- City need to building into development agreements.
- Need more interduct in ground.
- Have documented current state of affairs but not planned needs.
- Know of 4-5 programs that need bandwidth quadrupled – physics, engineering, geography/GIS
- Being asked to provision services in the cloud for other system campuses – implications, currently handle Lamar’s backup and recovery

Consultant Observations:
- Wireless is adequate but could be improved
Voice system
  o Continue to leverage copper.
  o Round Rock is VOIP.
  o Not going campus wide VOIP.
  o Can grow as needed
  o Want to get away from single switch failure. Trying to mitigate this when moving into University Street Parking Garage facility

VPIT not committed to copper anywhere on campus except for residence halls. Reliable, cheap. Rest of campus – flexible.

With regard to replacing fiber to fiber and copper to fiber – VPIT open to but dependent on financial picture, though fiber is best.

Potential Recommendations:
  ● Merge Facilities and IT GIS Mapping
  ● When planning new buildings, need IT at table and budgeted. Should include in scope of project getting IT to the building and not just the immediate footprint issues.
  ● Need to include a cable plan in the Master Plan.