

Consulting in Telecommunications, Networks, and Information Technology
Strategy Acquisition Execution

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Uniting Trends that May Impact UIUC
Communications Futures

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Purpose

- Review the network and telecommunications work underway and consider the likely results that may come from it

Agenda

- Background
- Process
- Issues
- Trends & Predictions

Background

- Your telephone system = Centrex
- 27,000 telephones
- 20 years old
- Contract is ending
- Legally connected to the other campuses
- 12 year planning horizon
- Growth requirement is substantial

Background

- Question = what is the best course of action?

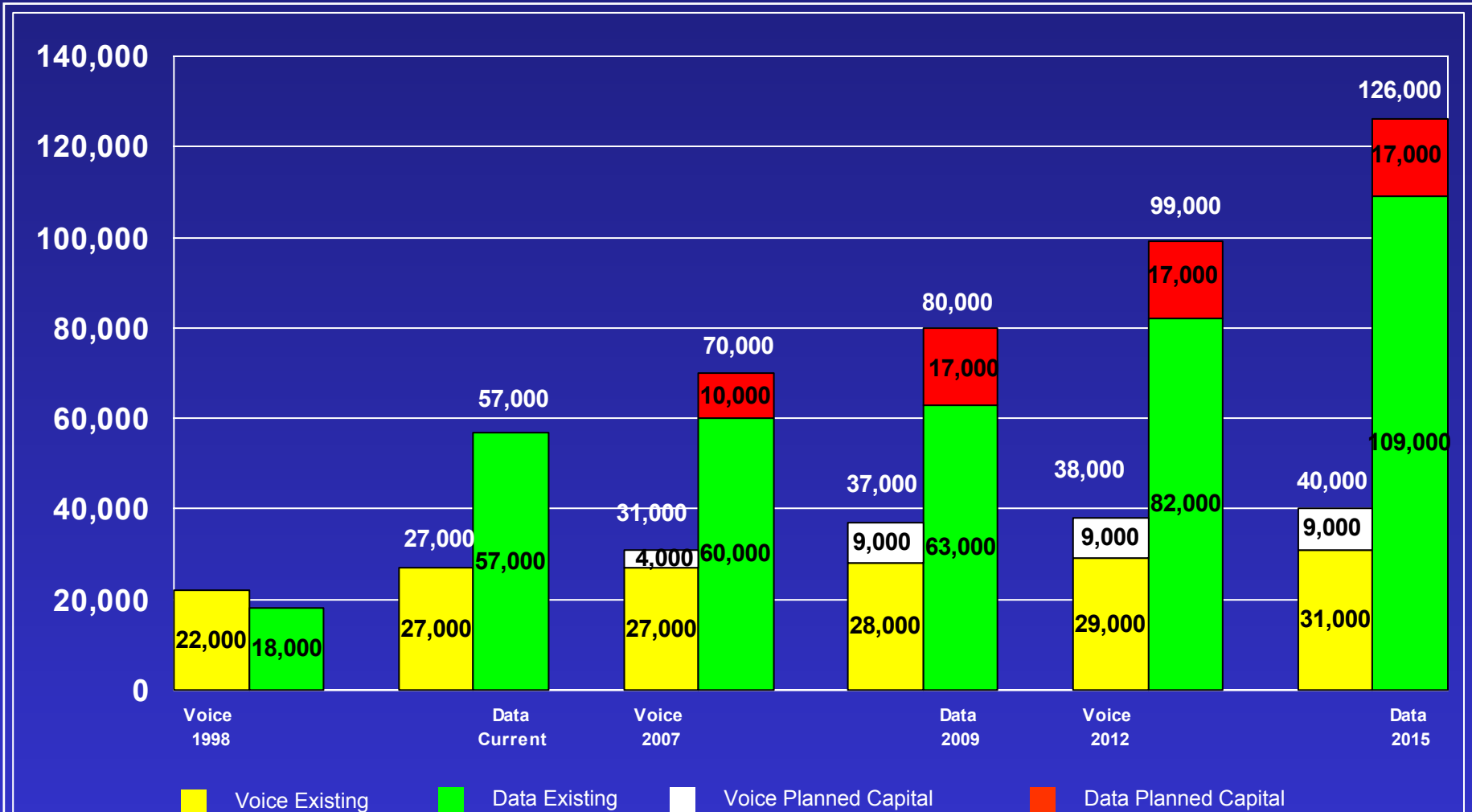
Background

- Telephony
- Network
- Wireless
- Outside plant physical infrastructure
- Inside plant physical infrastructure
- Building signal penetration
- Disaster mitigation
- How to pay for it

Background

- Growth requirement is substantial

Projected UIUC Growth for Data and Telephone Requirements

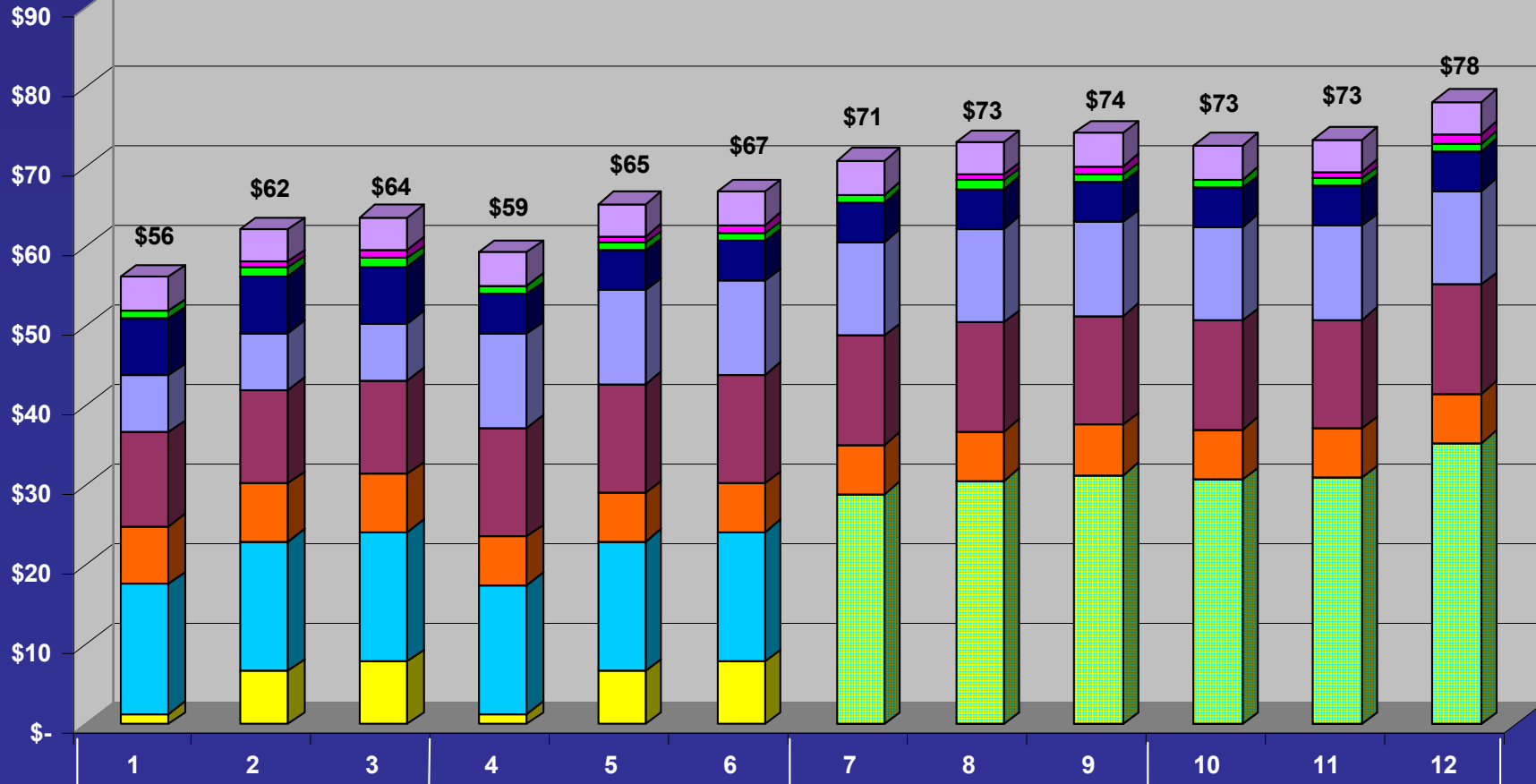


Background

- Convergence
- Vendors
- Survivability
- Mobility
- Cost
- Funding

Comparison of Typical Capital Needed for Different Rates of Convergence

Millions



Extend the Life

Prepare

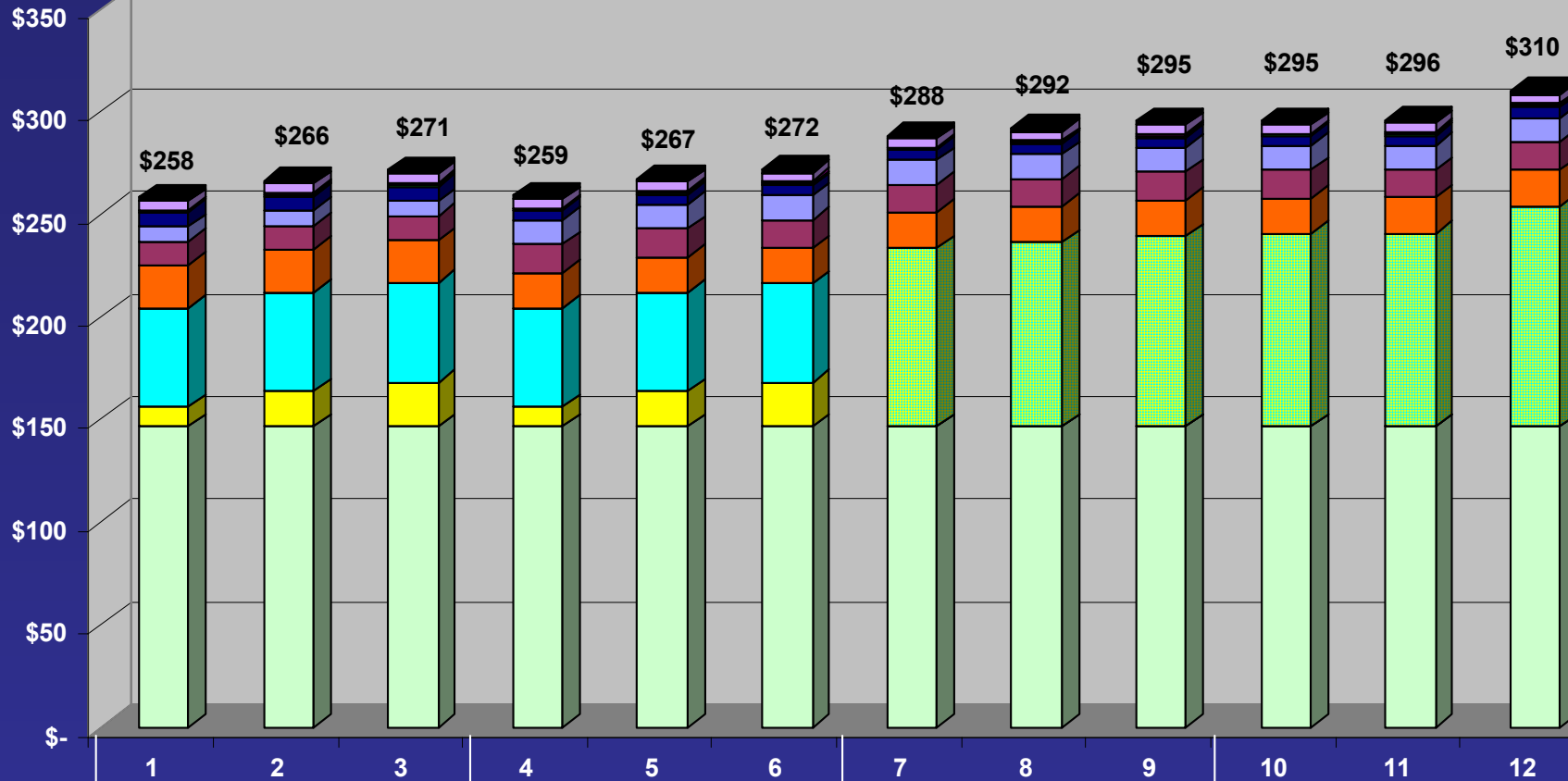
Adopt from less to more



Amount of Convergence

Comparison of Typical Life Cycle Cost Needed Various Rates of Convergence

Millions



Extend the Life

Prepare

Adopt from less to more



Amount of Convergence

Background

- Funding environments have also changed

Background

- Traditional funding sources are gone
- There is no replacement that does not hurt
- Stable network funding is required
- Rates structures are old
- Current rates are usually not compensatory
- Full cost is usually not known
- Convergence claims complicate rates
- Fully loaded costs generally do not go down
- An opportunity exists to create strategy

Background

- What should the future of Centrex be?
- How does the data network fit in?
- What is the role of mobility?
- When should convergence be achieved?
- How can survivability be improved?
- What is the cost?
- What are the benefits?
- What makes sense for you?

Process

Process



- Step 1: Create a benchmark
- Step 2: Develop alternatives

Alternatives

Alternatives

- Continue with Centrex using a separate data network
- Convert to a PBX with IP capability and continue to use a separate data network
- Convert to a converged voice and data network

Configuration Alternatives

	<i>Centrex Benchmark</i>	<i>TDM-PBX</i>		<i>Hybrid TDM/VoIP</i>		<i>Server Based VoIP (No TDM)</i>	
Survivability 		Less	More	Less	More	Less	More
Degree of Wireless 							
Wireless for Convenience	I	II	III	IV	V	VI	VII
Wireless as a Replacement Strategy	VIII	IX	X	XI	XII	XIII	XIV

Process

- Step 3: Estimate budgets
- Step 4: Prepare specifications
- Step 5: Conduct acquisition process
- Step 6: Combine OSP, ISP & mobility findings
- Step 7: Integrate rate and funding alternatives
- Step 8: Select a direction
- Step 9: Implement

Trends & Predictions

Trends & Predictions

- Everybody's network will grow
- More wireless options will emerge
- Increase staff training will be required
- Demands for service will continue
- Network commonality will be key
- The relationship with units will change

Trends & Predictions

- More pressure for system management
- More interest in staff justification
- Increased institutional awareness of cost
- Greater need for integrated planning
- Better physical space utilization
- New rates and funding
- Opportunities for business continuity & disaster mitigation

Trends & Predictions

- Technology will turn every 24 to 36 months
- 4 to 6 generations of technology during the planning horizon
- Investment cycles > technology generations

Trends & Predictions

- Self organizing integrated circuits – 2007
- Domestic demand 100Mp/s per home – 2008
- Camera ballistics - 2009
- Chips with 1 billion transistors – 2009
- The 90% tetherless society – 2009
- Mobile broadband 35x than today – 2010
- Optical storage as the default – 2010
- Massive parallel computers on a chip - 2015

Trends & Predictions

- Rates of technology adoption will have to increase
- Investments cycles will shorten
- Total cost will increase
- Hardware will commoditize
- Legacy funding mechanism will break down

Summary

Summary

- Resolve short term Centrex issue
- Confirm alternatives
- Identify a strategy that works for you
- Adopt a funding and rate method to pay for it
- Implement
- 2 – 4 years to complete

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