



City of Baltimore

Summary Report for the Comptroller

Telephone Improvement and

Procurement Project (TIPP)

April 1, 2019



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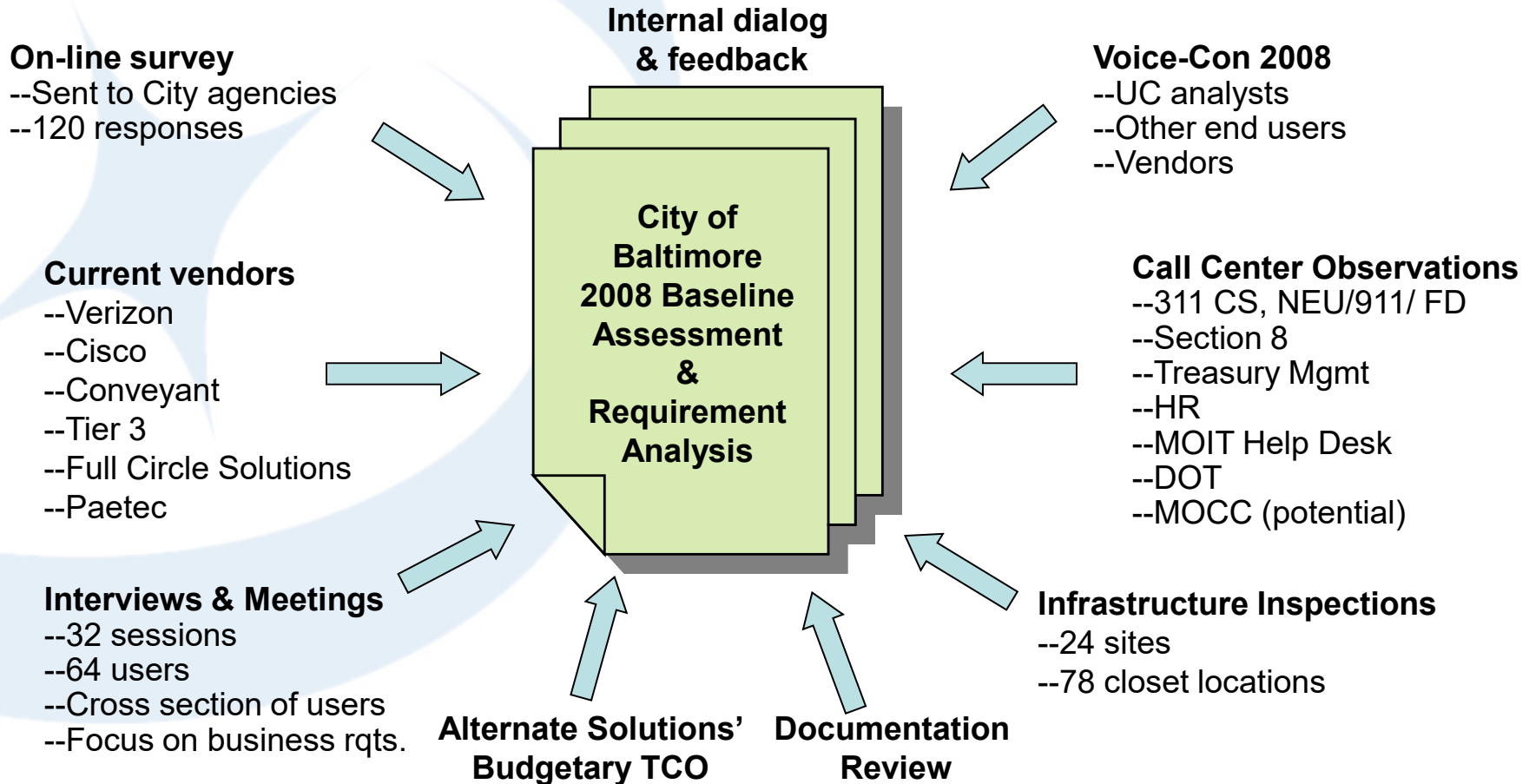
Agenda/ Contents

- **Work to Date**
- **Relevant Facts & Findings**
- **New Solution Architecture**
- **New Solution Benefits**
- **Current and Future Outlooks**
- **Next Steps**



Work to Date: Telephone Services Assessment

Project team used a multi-phased approach to gather input from a wide variety of city agencies & vendor sources

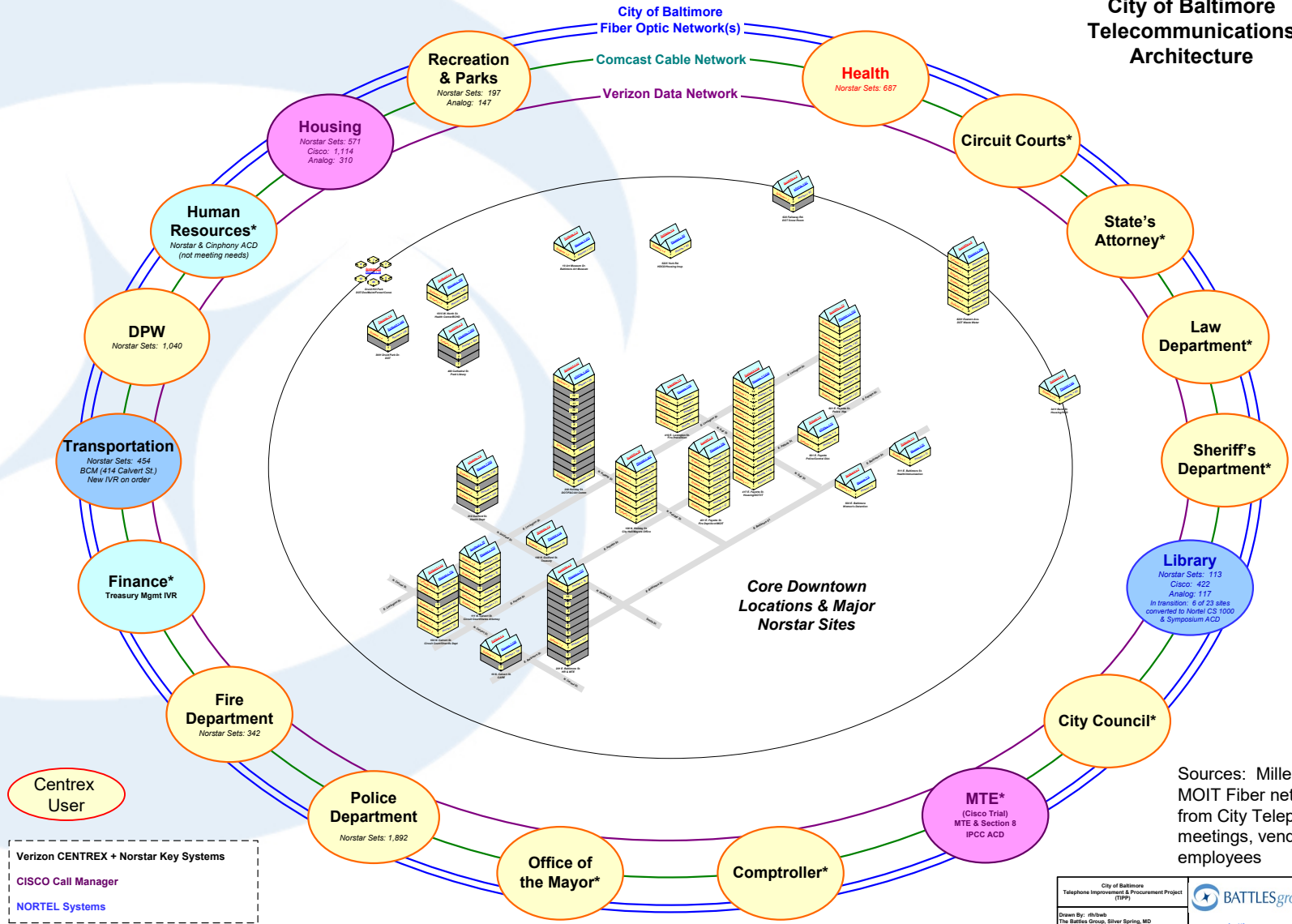




Relevant Facts and Findings

General Findings: Old System Architecture

City of Baltimore Telecommunications Architecture



Sources: Millennium inventory, MOIT Fiber network map, input from City Telephone Coordinators, meetings, vendors, ex-City employees

City of Baltimore Telephone Improvement & Procurement Project (TIPP)	
Drawn By: rfb/bab The Battles Group, Silver Spring, MD 301-364-7422	www.battlesgroup.com

* - indicates Office of the Mayor & City Administrative Office Norstar sets = 1,719 stations



General Findings

Technology Challenges

- Hundreds (788) of City locations to be served
- Multiple types of service and network connectivity among sites
- Lack of consistent system upgrades or migration
- Thousands of “low/no usage” lines appearing on invoices
- Legacy cable infrastructure in poor condition in many locations

Business Impacts

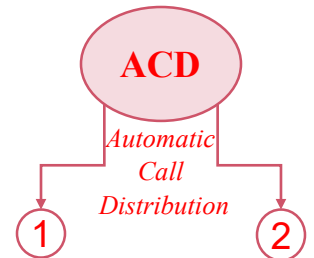
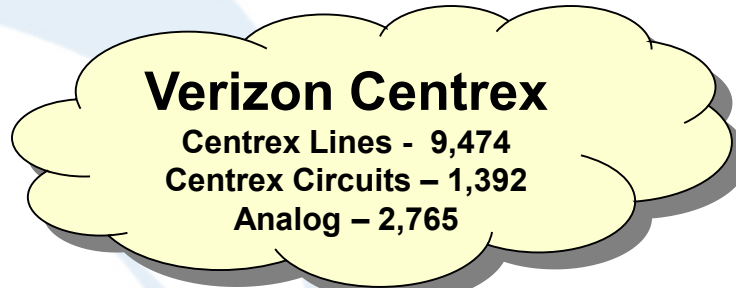
- Business activities and processes hampered by current technology limitations
- Numerous agency-centric voice telecommunications activities and budgets
- Few, if any, City-wide support and maintenance contracts
- Little to no training for user groups on available system and capabilities



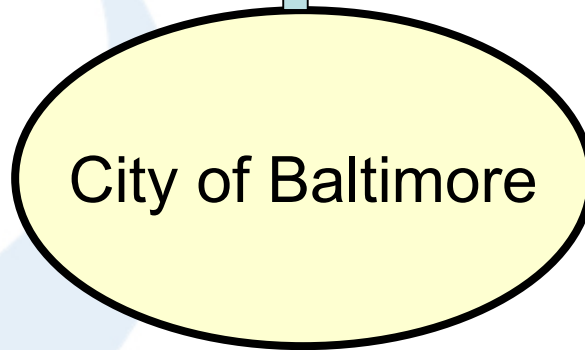
General Technical Findings: Growth of Disparate Systems



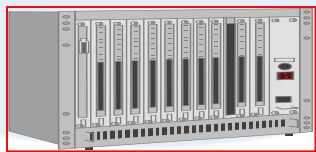
3 different brand name IVRs serving 3 Call Centers



7 different brand name ACDs serving 10 Call Centers



296 Norstar Key Telephone Systems serving City wide



Octel Voice Mail (4,070 VM boxes)

Agency driven initiatives will continue to create more City-wide operational, expense and support issues

2 different brand VoIP systems (Nortel & Cisco) serving 4 City agencies



Barriers to Better Constituent Service

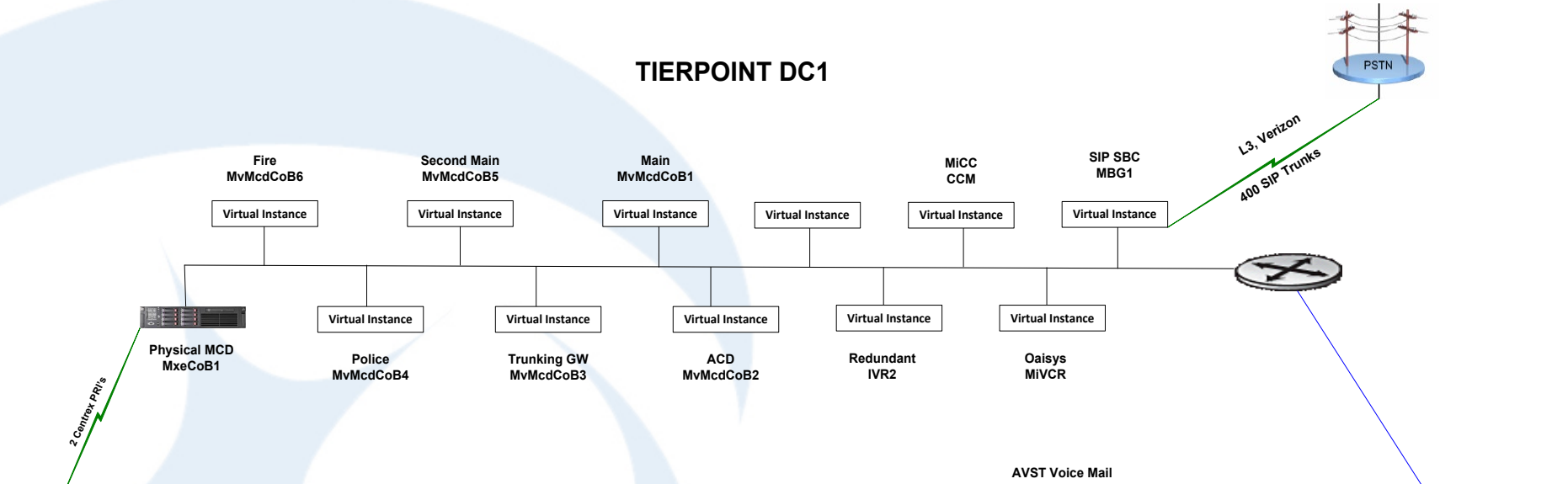
- **Key missing features in CENTREX configuration**
 - #1 - 65-75% ranked “Lack of Caller ID”
 - #2 - 59-75% ranked “Lack of message waiting light”
 - #3 – 33-34% ranked “Call Waiting”
 - #4 – 15-23% “Call Forwarding”
- **Other operational impediments**
 - Lack of (call center) reporting – 46% management
 - No direct individual lines – 41% Telephone Coordinators
 - No use of automated attendant – 31% management



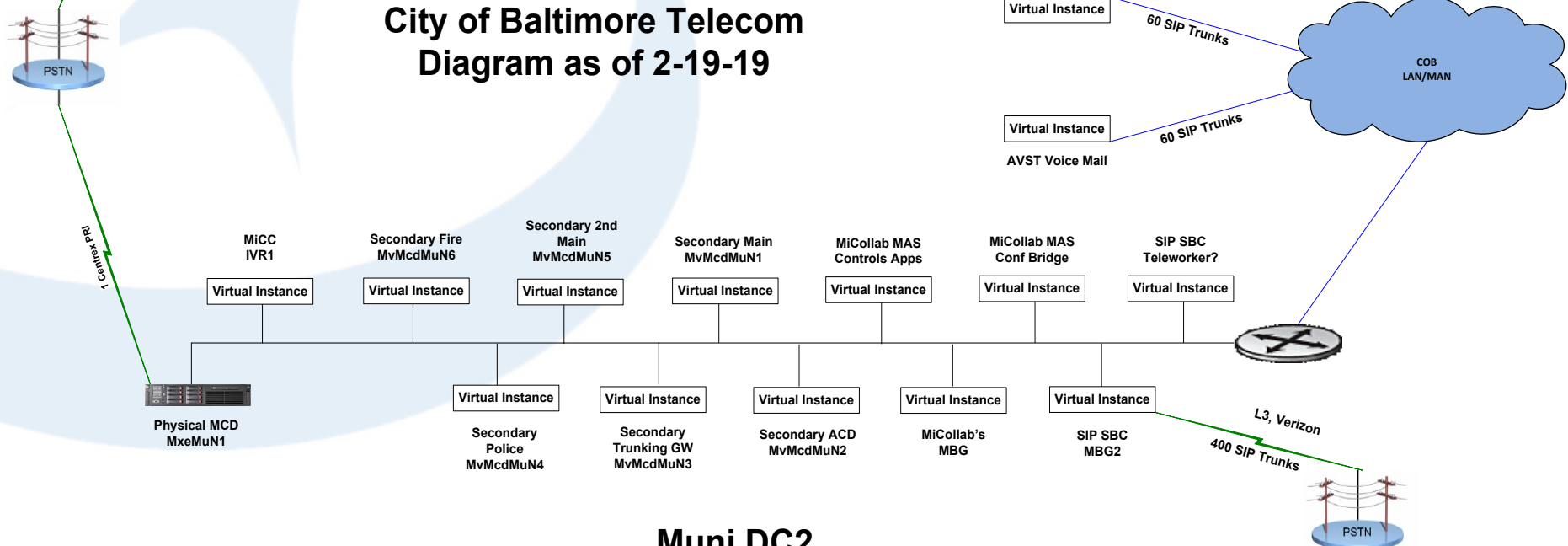


**The City's Unified
Communications (UC)
Solution**

TIERPOINT DC1



City of Baltimore Telecom Diagram as of 2-19-19



Muni DC2



The City selected a Mitel-based solution in a “private cloud” configuration.

Implementation Status

- Started in November 2016.
- Completion expected in 2019.
- About 5,200 telephone sets (equivalent to 6,936 telephone lines) of 6,700 are already installed.
- City’s “core” area is nearly complete.

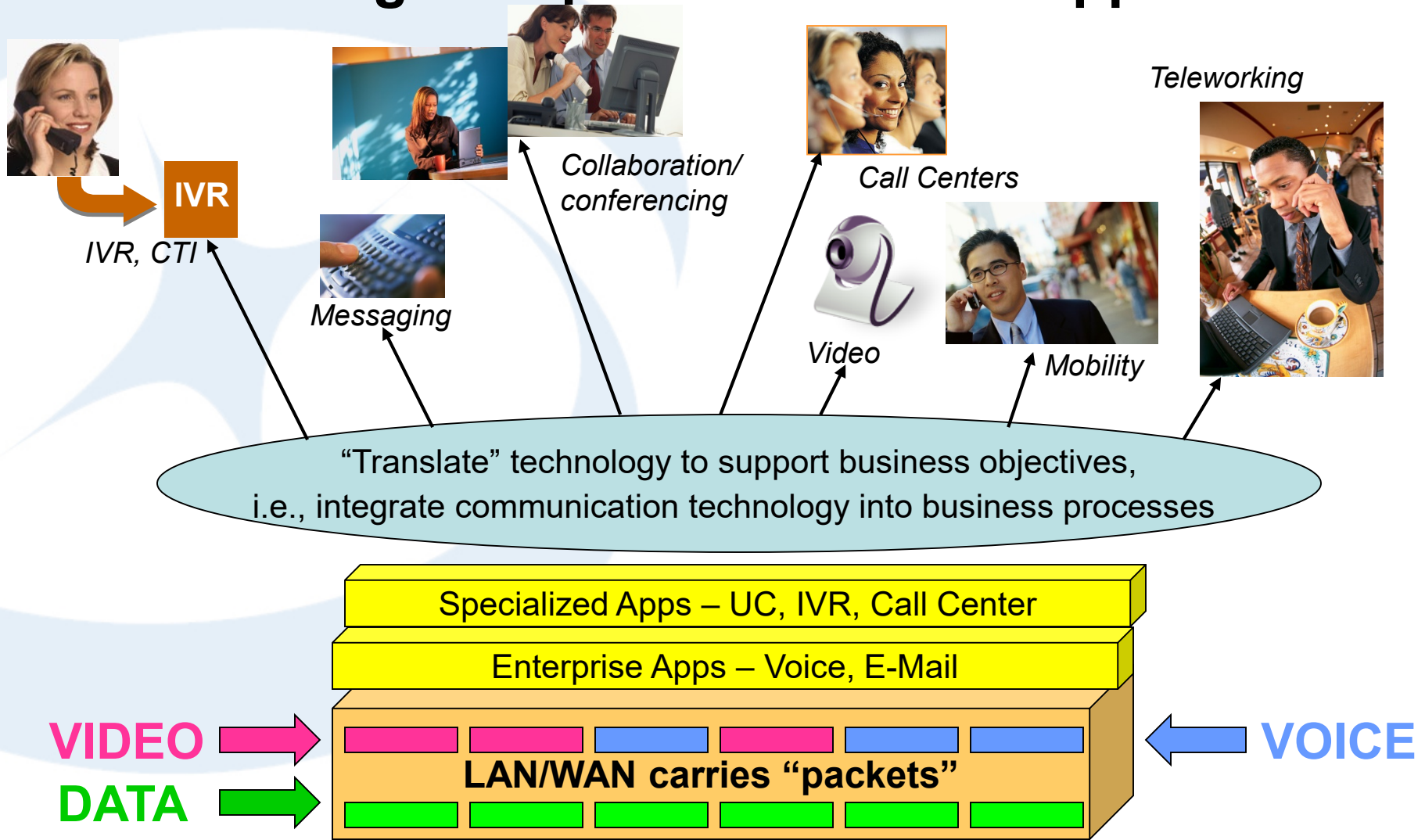
Internal City Customer Services

- Extend more consistent active “outreach” from MTE and BCIT to agencies in areas of training and strategic planning
- Formation of the first Baltimore Telecommunications User Group (BTUG) to share ideas, training and experiences
- Improve user and Telephone Coordinator training and documentation



One City - One Network Philosophy

Providing Multiple User Service Applications



TIPP Benefits: Logistical

- TIPP is a *true* City-wide/City-owned asset.
- Provides economies of scale by serving all City departments.
- Reduces reliance on multiple service and maintenance vendors.
- Embodies the “One City” philosophy.
- Fosters new, stronger relationship with BCIT.
- Provides the City more control of its own operations and responsiveness.



TIPP Benefits: Technological

- State-of-the-art “private cloud” telephony operation
 - Virtualized and resilient infrastructure
 - Spatially redundant to reduce the likelihood of outages
 - Centralized management, monitoring, operations, and administration
 - Increased flexibility, responsiveness and expansion capability to meet new mission requirements
- Upgraded City data and fiber networks
- Expanded features sets to all User groups and City contact centers
- Enhanced mobility communications capabilities



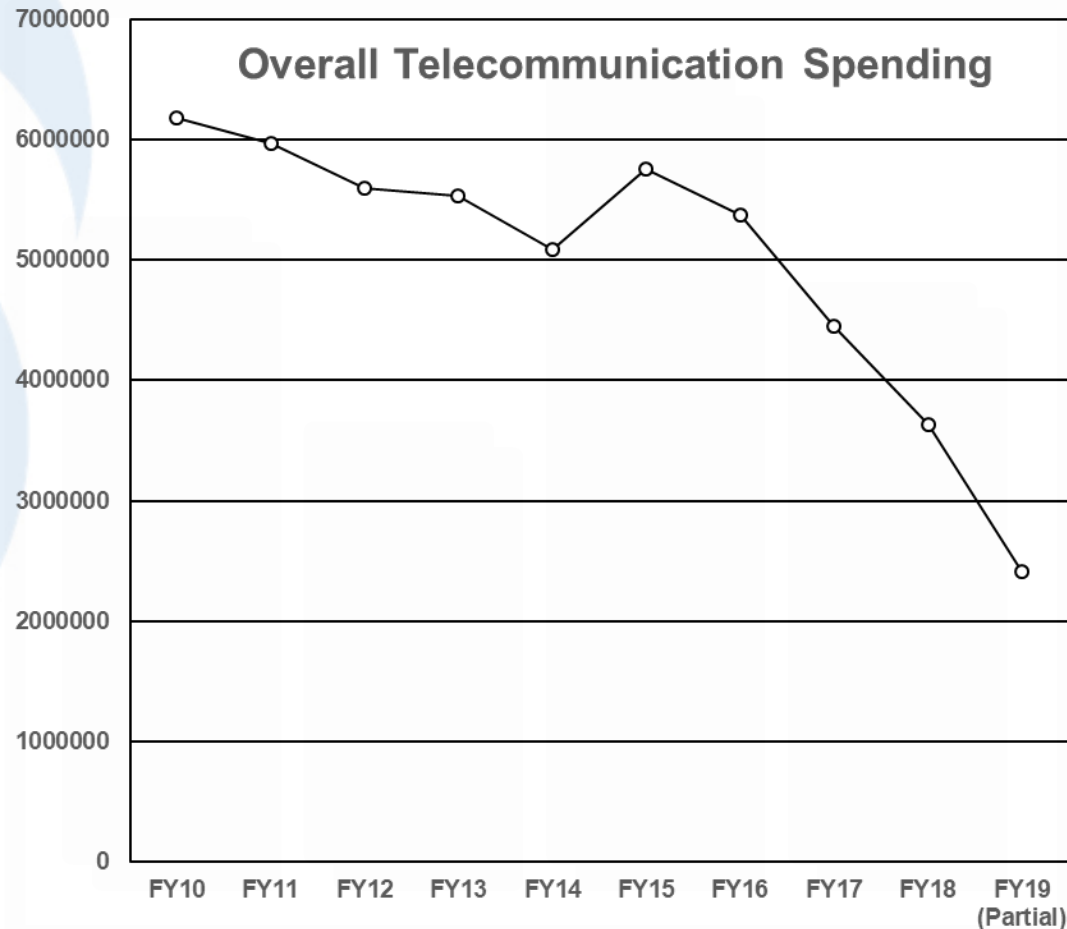
TIPP Benefits: Financial (*Audits*)

Cost reductions are from two primary sources:

Telecom Expense Audits

- Ongoing audits conducted during and after the initial assessment have identified opportunities for consolidation and Verizon service disconnects
- FY2010: \$ 6,186,272
Avg/Mo. = \$515,523
- FY2019Q3: \$ \$2,409,640*
Avg/Mo. = \$267,657*
- Expense reduction = 48%

* *Partial Year FY2019*

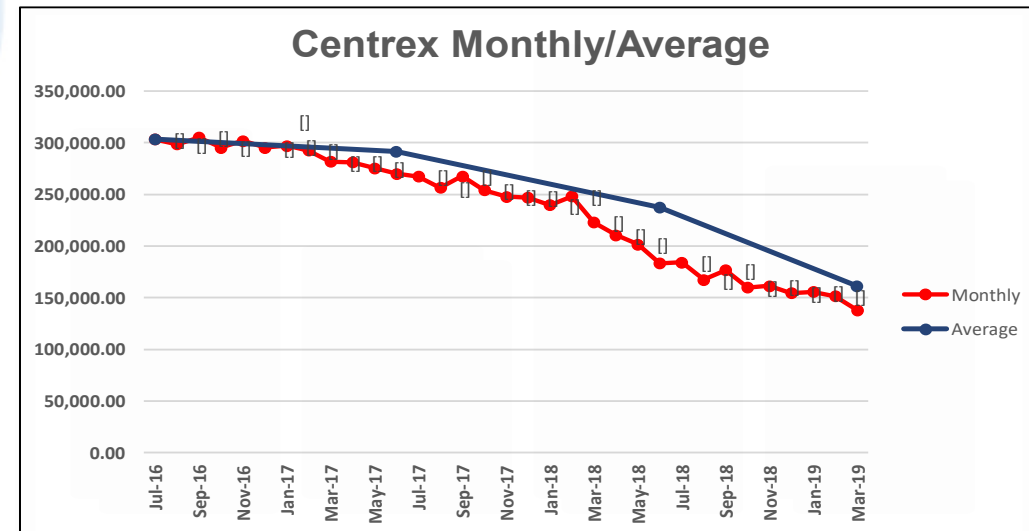
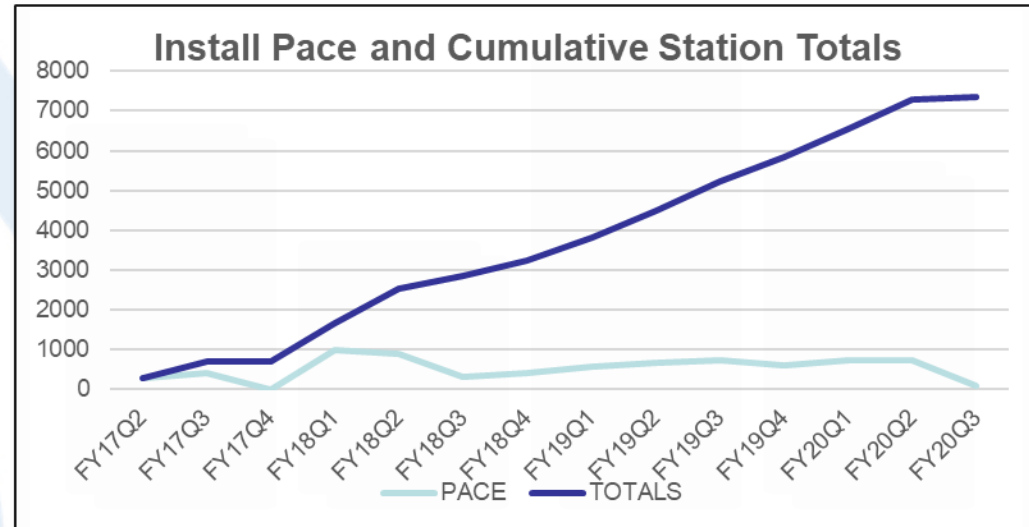


TIPP Benefits: Financial (*TIPP Implementation*)

- As TIPP implementations proceed, Centrex costs decrease
- Verizon Centrex savings (*Avg/Month & % Reductions*)
 - FY2016 = \$303,464 (Base)
 - FY2017 = \$291,487 (-04%)
 - FY2018 = \$237,236 (-22%)
 - *FY2019 = \$138,072 (-54%) **
 - *FY2020 = \$ 87,023 (-72%)***
- FY2016 = \$3,673,027
- *FY2020 = \$1,044,277***

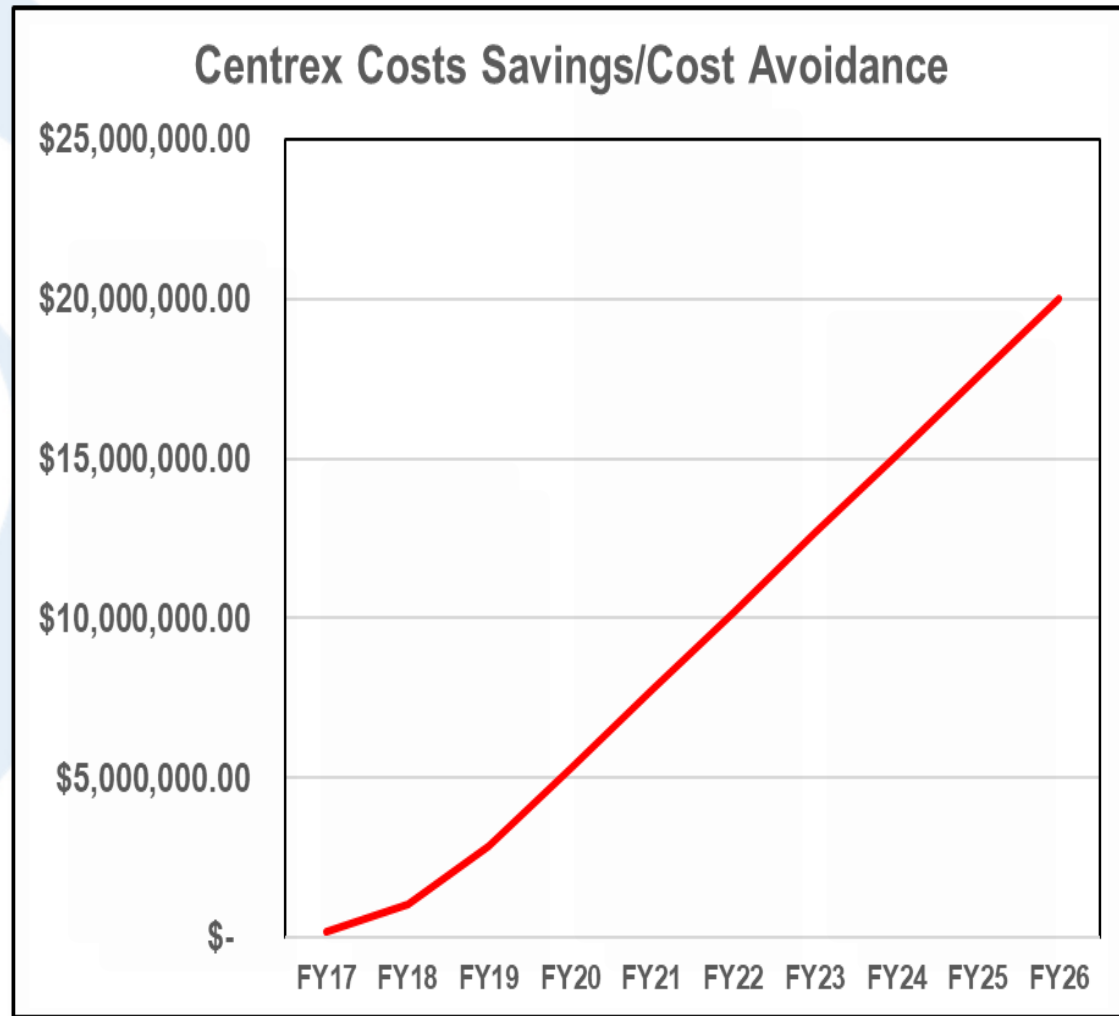
* *FY2019 based on partial year costs*

** *FY2020 estimated at completion*



TIPP Benefits: Financial (*long term*)

- **Projected 10-Year Centrex Savings: \$20,034,122**
- TIPP capital funding loan **will be retired in three years**, rather than 10.
- Early retirement of capital debt will permit **City-wide rate reductions** for all user groups.



More Cost Savings/Avoidances...

- Conservatively, the new phones **will save \$270,000** in replacement costs of old telephones over the next five years.
- The City will **save \$100,000** over five years by completing moves, adds, and changes (MACs) internally...*excluding external service provider charges!*
- *Bringing two cabling techs in house will offset \$430,000 over five years for cabling and jack installation/repair.*



Implementation and Cutover Outlook

Current Outlook

- Presently 5,219 stations (6,936 lines) installed of 6,700 currently contracted to the ConvergeOne and Mitel teams
- Current plans include requests for 7,359 stations (as more departments become aware of TIPP's benefits and feature sets)

Future Outlook

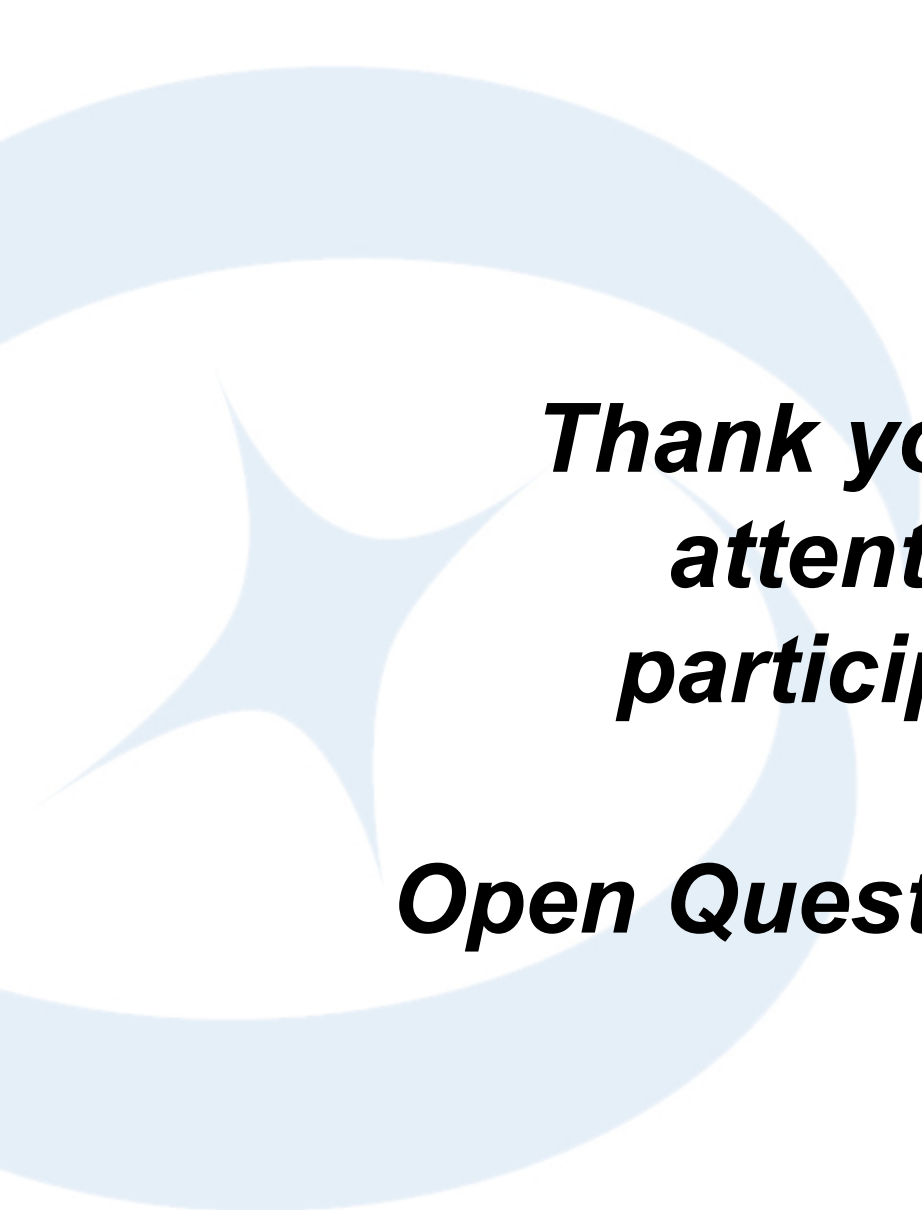
- Current additional department requests are estimated to drive total station count to an estimated 8,000 stations.
- Future migrations beyond 8,000 stations may include:
 - Baltimore City Schools
 - Enoch Pratt Free Library
 - Joint program offices for city-county, state, federal initiatives



Next Steps

- Complete contracted implementation.
- Add new users as needed.
- Address questions and concerns on current and future TIPP implementation outlooks.
- Address questions and concerns on financial results and forecasts.
- Support future call center and IVR design initiatives.





***Thank you for your
attention and
participation...!***

Open Question & Answer