MEETING: February 28, 2012

TO: The Board of Supervisors

FROM: Rick Peresan, Technical Services Director

RE: Technical Services Director Presentation

RECOMMENDATION AND JUSTIFICATION: Receive a presentation from the Technical Services Director and approve the purchase of the recommended infrastructure and email upgrade.

BACKGROUND AND HISTORY OF BOARD ACTIONS: The Board generally approves recommendations of the department heads.

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION: We can continue to replace failing equipment with old technology, reduce email retention periods, and accept the risks associated with system outages.

FISCAL IMPACT:
Phase one of the proposed project is within current budget.
03/15/12 001-0151-506-06.56 · Data Processing Fixed Assets - Server Virtualization $75,153.00

CAO RECOMMENDATION
Requested Action Recommended

RESULT: ADOPTED [UNANIMOUS]
MOVER: Jim Allen, District V Supervisor
Agenda Item 2012-97

SECONDER: Lee Stetson, District I Supervisor
AYES: Stetson, Turpin, Bibby, Cann, Allen
Technical Services 2012

- Not here to present accomplishments
- Rather focus on 4 key elements

Technical Services 2012

- Information Security
- GIS
- Infrastructure
- Application Systems

Technical Services 2012

- Security
  - Often overlooked, not taken seriously, but absolutely essential
  - Ex-Hacker Says Local Governments Easy Targets for Breaches in Web Security

Technical Services 2012

- GIS
  - Just scratching the surface
Technical Services 2012

- Infrastructure
- We have a bunch of stuff
  1 AS400
  22 Microsoft File and Application Servers (13 in the Data center)
  4 Main Switches

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- Infrastructure

AS400 Purchased in Sept 2004
at a cost of $72,500
Replacement Cost: $45,000

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- Infrastructure

Aging File Servers 2004 - 2009
2 near capacity – 2 more required
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- Infrastructure
  
  Option:
  Replace one at a time as they fail (about $5,000 each)

- Infrastructure
  
  Solution: Virtualization
  
  Real Solution: Virtualization
  
  2 Servers
  1 Storage Area Network (SAN)

- Infrastructure
  
  Solution: Virtualization
  
  Cost: Hardware - $45,000
  Software - $30,000
  (Includes Email Upgrade - Based on 233 users)
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- Infrastructure

Switches — Purchased in 2006 — $44,500
Three Generations Behind — Replacement cost $80,000

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- Infrastructure

Good News!
The warranty on our current equipment is good to 2016 and we have 1 spare.

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- Applications

Over 40 Department Applications
Key Enterprise (HTE), Sheriff and Jail Systems use AS400

Technical Services 2012

- Applications

Some Department Applications are so old they do not lend themselves to new architecture.
Email — Need to replace soon
Technical Services 2012

Email Usage (6 month Retention)

<table>
<thead>
<tr>
<th>Month</th>
<th>February</th>
<th>March</th>
<th>April</th>
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<tr>
<td>2012</td>
<td>63,917,358</td>
<td>417,345</td>
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<td>December</td>
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<td>November</td>
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<td>October</td>
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<td>August</td>
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<tr>
<td>July 2011</td>
<td>51,454,906</td>
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</tbody>
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Email Options

- Reduce retention to 3 months (short term solution)
- Outsource (Google Apps, Microsoft Office 365)
  - Annual Cost $12,560 (360/year/person we have 250)
  - Self host as today - $12,000 (one time)
  - However there will be additional cost.

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Disaster Recovery (Business Continuity)

- AS400
  - $18,000 per year
  - $30,000 per year
  - $50,000 per year
  - (includes Windows)

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AS400

Backup

Windows

Backup

13

Servers

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Disaster Recovery

- AS400
  - Self insure via replication (With new AS400) - $45,000
  - Once every 8 years
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- Disaster Recovery
  - Windows Based Systems
  - Self-insure with Storage Replication $45,000
    - Once every 8 years

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- Summary
  - New AS400 $45,000
  - AS400 D/R $45,000
  - Windows D/R $45,000
  - Switch Replacement $80,000
  - Virtualize (Phase 1) $75,000

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- Summary
  - Total IT Infrastructure Replacement $290,000
  - Current Reserve - $180,000
  - Current Capital Budget $75,000

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- Data Backup
  - AS400 Backup
  - Windows Backup
  - Servers

Technical Services 2012

- Data Backup
  - AS400 Backup
  - Windows Backup
  - Tape Drive
Technical Services 2012

- Summary
  - New As400 $45,000
  - Virtual Tape Library $25,000
  - Virtualize (Phase 1) $75,000

  Total $145,000

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- Summary
  - I am asking the Board to approve the server virtualization and Email upgrade (75,000)