SUMMARY for January 2016:
See below for a list of Root Causes for Unplanned Outages.
ITS Changes and outages continue to meet goal.

40.5% of all planned changes were documented in IT Request.

- Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>24%</td>
<td>11%</td>
</tr>
</tbody>
</table>

- Goal for 2015-16: 100% of changes documented in IT Request.
  - January
    - Planned: 40.5%
    - Unplanned: 0%

- Goal: Outages due to failed changes: ≤ 9 per quarter (~5%) **Winter Quarter: 0**
  Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
  - January - 0

- **January** Unplanned Outages Summary = 16
  - 7 outage(s) were caused by software issues
  - 5 outage(s) were caused by hardware issues
  - 3 outage(s) were caused by vendor issues
  - 1 outage(s) was caused by a power failure

**Ratio Unplanned to Total Events**

- Ratio of Unplanned to Total Outages
- Ratio of UO to Total Events

<table>
<thead>
<tr>
<th>Start Date</th>
<th>Time</th>
<th>Coverage</th>
<th>Duration</th>
<th>Service Location</th>
<th>Root Cause</th>
<th>Contact</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Server</td>
<td>Hardware</td>
<td>Peter McMillan</td>
<td>No</td>
</tr>
<tr>
<td>4-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Learning Technologies Computer Lab</td>
<td>Software</td>
<td>Gary Opper</td>
<td>No</td>
</tr>
<tr>
<td>4-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Microsoft Office</td>
<td>Software</td>
<td>John Blacker</td>
<td>No</td>
</tr>
<tr>
<td>5-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Hospital Network</td>
<td>Software</td>
<td>Lisa Brown</td>
<td>No</td>
</tr>
<tr>
<td>6-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Hospital Network</td>
<td>Hardware</td>
<td>John Honor</td>
<td>No</td>
</tr>
<tr>
<td>12-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Microsoft Office</td>
<td>Software</td>
<td>Jennifer Jones</td>
<td>No</td>
</tr>
<tr>
<td>15-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Hospital Network</td>
<td>Software</td>
<td>John Honor</td>
<td>No</td>
</tr>
<tr>
<td>28-Jan-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Hospital Network</td>
<td>Software</td>
<td>Jennifer Jones</td>
<td>No</td>
</tr>
<tr>
<td>1-Mar-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Microsoft Office</td>
<td>Software</td>
<td>John Blacker</td>
<td>No</td>
</tr>
<tr>
<td>4-Mar-16</td>
<td>AM</td>
<td>1 Hour</td>
<td>1 Hour</td>
<td>Hospital Network</td>
<td>Software</td>
<td>Lisa Brown</td>
<td>No</td>
</tr>
</tbody>
</table>

**Note:** Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
ITS Outage Metrics
January 2016

# Unplanned Outages
Jan 12
Feb 12
Mar 11
Apr 12
May 21
June 21
July 9
Aug 14
Sept 16
Oct 13
Nov 8
Dec 16

# Planned Outages
Jan 44
Feb 52
Mar 47
Apr 51
May 36
June 54
July 74
Aug 58
Sept 67
Oct 64
Nov 46
Dec 54

Ratio of Unplanned Outages Caused by Failed Changes to Total Outages
Jan 2%
Feb 0%
Mar 7%
Apr 3%
May 11%
June 3%
July 1%
Aug 7%
Sept 5%
Oct 4%
Nov 0%
Dec 0%

Ratio of Unplanned to Total Outages
Jan 21%
Feb 19%
Mar 19%
Apr 19%
May 37%
June 28%
July 11%
Aug 19%
Sept 19%
Oct 17%
Nov 15%
Dec 23%

January 2016 Causes of ITS

Total Outages = 71

Unplanned Outage: Hardware/Software related 17%
Unplanned Outage: External/Vendor related 6%
Planned Outages 77%
SUMMARY for February 2016:
See below for a list of Root Causes for Unplanned Outages.
ITS Changes and outages continue to meet goal.

43.1% of all planned changes were documented in IT Request.

- Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>20%</td>
<td>10%</td>
</tr>
</tbody>
</table>

- Goal for 2015-16: 100% of changes documented in IT Request.
  - February Planned: 34.0% Unplanned: 9.1%

- Goal: Outages due to failed changes: ≤ 9 per quarter (~5%) Winter Quarter: 0
  - Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
  - February – 0

- February Unplanned Outages Summary = 11
  - 5 outage(s) were caused by hardware issues
  - 3 outage(s) were caused by software issues
  - 2 outage(s) were caused by vendor issues
  - 1 outage(s) was caused by a power failure
Mar Apr May June July Aug Sept Oct Nov Dec Jan‐Feb

# Unplanned Maintenance
12 11 12 21 21 9 14 16 13 8 16 0

# Planned Outages
52 47 51 36 54 74 58 67 64 46 54 44

Ratio of Unplanned Outages Caused by Failed Changes to Total Outages
0% 7% 3% 11% 3% 1% 7% 5% 4% 0% 0% 0%

Ratio of Unplanned to Total Outages
19% 19% 19% 37% 28% 11% 19% 19% 17% 15% 23% 20%
SUMMARY for March 2016:
See below for a list of Root Causes for Unplanned Outages.
ITS Changes and outages continue to meet goal.

37.2% of all planned changes were documented in IT Request.

- Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>22%</td>
<td>11%</td>
</tr>
</tbody>
</table>

- Goal for 2015-16: 100% of changes documented in IT Request.
  - March Planned: 36.5% Unplanned: 20%

- Goal: Outages due to failed changes: ≤ 9 per quarter (~5%) Winter Quarter: 0
Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.

- March – 0

- **March** Unplanned Outages Summary = 15
  - 8 outage(s) were caused by hardware issues
  - 7 outage(s) was caused by a power failure
## ITS Outage Metrics

**March 2016**

<table>
<thead>
<tr>
<th>Month</th>
<th># Unplanned Maintenance</th>
<th># Planned Outages</th>
<th>Ratio of Unplanned Outages Caused by Failed Changes to Total Outages</th>
<th>Ratio of Unplanned to Total Outages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr</td>
<td>11</td>
<td>47</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td>May</td>
<td>12</td>
<td>51</td>
<td>3%</td>
<td>19%</td>
</tr>
<tr>
<td>June</td>
<td>21</td>
<td>36</td>
<td>11%</td>
<td>37%</td>
</tr>
<tr>
<td>July</td>
<td>21</td>
<td>54</td>
<td>3%</td>
<td>28%</td>
</tr>
<tr>
<td>Aug</td>
<td>9</td>
<td>74</td>
<td>1%</td>
<td>11%</td>
</tr>
<tr>
<td>Sept</td>
<td>14</td>
<td>58</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td>Oct</td>
<td>16</td>
<td>67</td>
<td>5%</td>
<td>19%</td>
</tr>
<tr>
<td>Nov</td>
<td>13</td>
<td>64</td>
<td>4%</td>
<td>17%</td>
</tr>
<tr>
<td>Dec</td>
<td>8</td>
<td>46</td>
<td>0%</td>
<td>15%</td>
</tr>
<tr>
<td>Jan−16</td>
<td>16</td>
<td>54</td>
<td>0%</td>
<td>23%</td>
</tr>
<tr>
<td>Feb</td>
<td>0</td>
<td>44</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>Mar</td>
<td>0</td>
<td>53</td>
<td>0%</td>
<td>22%</td>
</tr>
</tbody>
</table>

**Notes:**
- The chart displays the number of outages for each month along with the ratios of unplanned outages caused by failed changes to total outages and the ratio of unplanned to total outages.
SUMMARY for April 2016:
See below for a list of Root Causes for Unplanned Outages. ITS Changes and outages continue to meet goal.

40.9% of all planned changes were documented in IT Request.

- Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>31%</td>
<td>15%</td>
</tr>
</tbody>
</table>

- Goal for 2015-16: 100% of changes documented in IT Request.
  - April Planned: 40.9% Unplanned: 28.6%
- **Goal:** Outages due to failed changes: $\leq 9$ per quarter (~5%)
  - **Spring Quarter:** 0
  - Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
    - **April** – 0

- **April Unplanned Outages Summary = 19**
  - 11 outage(s) were caused by hardware issues
  - 4 outage(s) was caused by vendor issues
  - 3 outage(s) were caused by power failures
  - 1 outage(s) was caused by software failures
### ITS Outage Metrics
**April 2016**

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned Maintenance</th>
<th>Planned Outages</th>
<th>Ratio of Unplanned Outages Caused by Failed Changes to Total Outages</th>
<th>Ratio of Unplanned to Total Outages</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>12</td>
<td>47</td>
<td>3%</td>
<td>19%</td>
</tr>
<tr>
<td>June</td>
<td>21</td>
<td>51</td>
<td>11%</td>
<td>37%</td>
</tr>
<tr>
<td>July</td>
<td>21</td>
<td>36</td>
<td>3%</td>
<td>28%</td>
</tr>
<tr>
<td>Aug</td>
<td>9</td>
<td>54</td>
<td>1%</td>
<td>11%</td>
</tr>
<tr>
<td>Sept</td>
<td>14</td>
<td>74</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td>Oct</td>
<td>16</td>
<td>58</td>
<td>5%</td>
<td>19%</td>
</tr>
<tr>
<td>Nov</td>
<td>13</td>
<td>67</td>
<td>4%</td>
<td>17%</td>
</tr>
<tr>
<td>Dec</td>
<td>8</td>
<td>64</td>
<td>0%</td>
<td>15%</td>
</tr>
<tr>
<td>Jan-16</td>
<td>16</td>
<td>46</td>
<td>0%</td>
<td>23%</td>
</tr>
<tr>
<td>Feb</td>
<td>0</td>
<td>54</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>Mar</td>
<td>0</td>
<td>44</td>
<td>0%</td>
<td>22%</td>
</tr>
<tr>
<td>Apr</td>
<td>2</td>
<td>53</td>
<td>0%</td>
<td>31%</td>
</tr>
</tbody>
</table>
SUMMARY for May 2016:
See below for a list of Root Causes for Unplanned Outages.
ITS Changes and outages continue to meet goal.

18.5% of all planned changes were documented in IT Request.

- Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>13%</td>
<td>7%</td>
</tr>
</tbody>
</table>

- Goal for 2015-16: 100% of changes documented in IT Request.
  - May  Planned: 18.5%  Unplanned: 50%

- Goal: Outages due to failed changes: ≤ 9 per quarter (~5%) Spring Quarter: 0
  Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
- **May** Unplanned Outages Summary = 10
  - 5 outage(s) were caused by hardware issues
  - 2 outage(s) was caused by software failures
  - 2 outage(s) were caused by vendor issues
  - 1 outage(s) was caused by power failure
## ITS Outage Metrics
### May 2016

<table>
<thead>
<tr>
<th>Month</th>
<th># Unplanned Maintenance</th>
<th># Planned Outages</th>
<th>Ratio of Unplanned Outages Caused by Failed Changes to Total Outages</th>
<th>Ratio of Unplanned to Total Outages</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2016</td>
<td>12</td>
<td>47</td>
<td>11%</td>
<td>37%</td>
</tr>
<tr>
<td>June 2016</td>
<td>21</td>
<td>51</td>
<td>3%</td>
<td>28%</td>
</tr>
<tr>
<td>July 2016</td>
<td>21</td>
<td>36</td>
<td>1%</td>
<td>11%</td>
</tr>
<tr>
<td>Aug 2016</td>
<td>9</td>
<td>54</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td>Sept 2016</td>
<td>14</td>
<td>74</td>
<td>5%</td>
<td>19%</td>
</tr>
<tr>
<td>Oct 2016</td>
<td>16</td>
<td>58</td>
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<td>17%</td>
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<tr>
<td>Nov 2016</td>
<td>13</td>
<td>67</td>
<td>0%</td>
<td>15%</td>
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<tr>
<td>Dec 2016</td>
<td>8</td>
<td>64</td>
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<td>23%</td>
</tr>
<tr>
<td>Jan-16</td>
<td>16</td>
<td>46</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>Feb</td>
<td>0</td>
<td>54</td>
<td>0%</td>
<td>22%</td>
</tr>
<tr>
<td>Mar</td>
<td>0</td>
<td>44</td>
<td>0%</td>
<td>31%</td>
</tr>
<tr>
<td>Apr</td>
<td>2</td>
<td>53</td>
<td>0%</td>
<td>13%</td>
</tr>
</tbody>
</table>
SUMMARY for June 2016:
See below for a list of Root Causes for Unplanned Outages.
ITS Changes and outages continue to meet goal.

27.5 % of all planned changes were documented in IT Request.

• Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>13%</td>
<td>6%</td>
</tr>
</tbody>
</table>

• Goal for 2015-16: **100%** of changes documented in IT Request.
  o June       Planned: **27.5%**  Unplanned: **0%**

• Goal: Outages due to failed changes: ≤ 9 per quarter (~5%) **Spring Quarter: 0**
  Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
- **June** Unplanned Outages Summary = 5
  - 4 outage(s) were caused by hardware issues
  - 1 outage(s) were caused by vendor issues
SUMMARY for July 2016:
See below for a list of Root Causes for Unplanned Outages.
ITS Changes and outages continue to meet goal.

23.7 % of all planned changes were documented in IT Request.

- Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>12%</td>
<td>7%</td>
</tr>
</tbody>
</table>

- Goal for 2015-16: 100% of changes documented in IT Request.
  - July Planned: 40.9%  Unplanned: 28.6%

- Goal: Outages due to failed changes: ≤ 9 per quarter (~5%) **Summer Quarter: 0**
  Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
- July – 0

- **July** Unplanned Outages Summary = 6
  - 5 outage(s) were caused by vendor issues
  - 1 outage(s) were caused by hardware failure
ITS Outage Metrics
July 2016

<table>
<thead>
<tr>
<th></th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan-16</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
</tr>
</thead>
<tbody>
<tr>
<td># Unplanned</td>
<td>9</td>
<td>14</td>
<td>16</td>
<td>13</td>
<td>8</td>
<td>16</td>
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<td></td>
<td></td>
</tr>
<tr>
<td># Planned</td>
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<td>67</td>
<td>64</td>
<td>46</td>
<td>54</td>
<td>44</td>
<td>53</td>
<td>43</td>
<td>65</td>
<td>35</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio of Unplanned Outages Caused by Failed Changes to Total Outages</td>
<td>1%</td>
<td>7%</td>
<td>5%</td>
<td>4%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Ratio of Unplanned to Total Outages</td>
<td>11%</td>
<td>19%</td>
<td>19%</td>
<td>17%</td>
<td>15%</td>
<td>23%</td>
<td>20%</td>
<td>22%</td>
<td>31%</td>
<td>13%</td>
<td>13%</td>
<td>12%</td>
</tr>
</tbody>
</table>
SUMMARY for August 2016:
See below for a list of Root Causes for Unplanned Outages.
ITS Changes and outages continue to meet goal.

32.0% of all planned changes were documented in IT Request.

- Ratio of Unplanned to Total Outages & Maintenance Events:

<table>
<thead>
<tr>
<th>Month</th>
<th>Unplanned to Total Outages</th>
<th>Unplanned to Total Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>5%</td>
<td>3%</td>
</tr>
</tbody>
</table>

- Goal for 2015-16: 100% of changes documented in IT Request.
  - August  Planned: 32.0%  Unplanned: 0%

- Goal: Outages due to failed changes: ≤ 9 per quarter (~5%) Summer Quarter: 0
  Note: Failed Changes include outages caused by unintended consequences of a change. This implies that we could have avoided the unplanned outage if we had planned or executed the change better.
August – 0

- **August** Unplanned Outages Summary = 4
  - 3 outage(s) were caused by hardware failure
  - 1 outage(s) were caused by power failure
ITS Outage Metrics
August 2016

# Unplanned Maintenance

# Planned Outages

Ratio of Unplanned Outages Caused by Failed Changes to Total Outages

Ratio of Unplanned to Total Outages
August 2016
Causes of ITS

Total Outages = 77

Unplanned Outage: Hardware/Software related 4%
Unplanned Outage: External/ Vendor related 1%
Planned Outages 95%