

# Building a Maintenance Solution Leveraging SAP Mobility

**Fabio Biancolin, P. Eng.**  
City of Toronto







Toronto



# Toronto

- Home to some of North America's most successful sports teams...  
...and the Maple Leafs





# Toronto – Fun Facts

- Largest city in Canada
- 4<sup>th</sup> largest city in North America
  - Population of 2.8 million (~ the same as Chicago)
  - Ranked as the safest major city in North America
  - Home to:
    - Tallest free-standing structure in the Western Hemisphere – CN Tower
    - The World's best food market – St. Lawrence Market





## The City of Toronto

Largest municipal employer in Canada

- Over 33,000 full-time staff

Yearly operating budget over \$10.5 billion CAD (\$8 billion USD)

44 Divisions, each performing distinct functions

- Like 44 unique businesses!
- Each Division fighting for a 'slice of the pie'





## A little bit about my team



Me

- Manager, Business Process Solutions (BPS)
  - 17 years with Facilities Management



My Team

- SAP functional analysts (PM and RE)
- Focus on process improvement and strategic application of technology
- Business team, not IT!



Our Clients

- Facilities Operations
- Real Estate Services
- Parks, Forestry and Recreation



## Facilities Operations



**40,000** Work Requests per Year



**80+** Client Groups Served

**1100**



*Buildings & Properties*



**50 50**

Mix of *Internal* & *Contract* Work

**\$30+ Million**

Work Order Costs Annually



## A quick history...

**2003** – Business identified a need for a new Work Management System

**2006** – Went live with **SAP Plant Maintenance (PM)**

- ✓ Proven, stable system
- ✓ Excellent Integration (HR, \$, MM)
- ✓ Reduced duplicate data entry
- ✓ One version of truth!

## Success!!



## The hard truth...

### 2008 – Post Implementation Review by SAP

- 'Win' was not as big as we hoped for
  - Delivered a *system* but not a *solution*
- 
- ✗ Few automated processes
  - ✗ Significant staff time savings (some)
  - ✗ Better work management processes (same)
  - ✗ Improved accountability

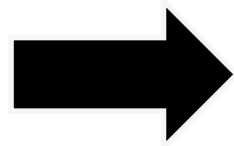
So now what??



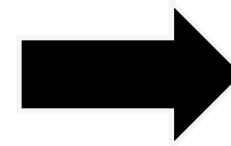
## Where do we go from here?



Assessment



Vision



Roadmap

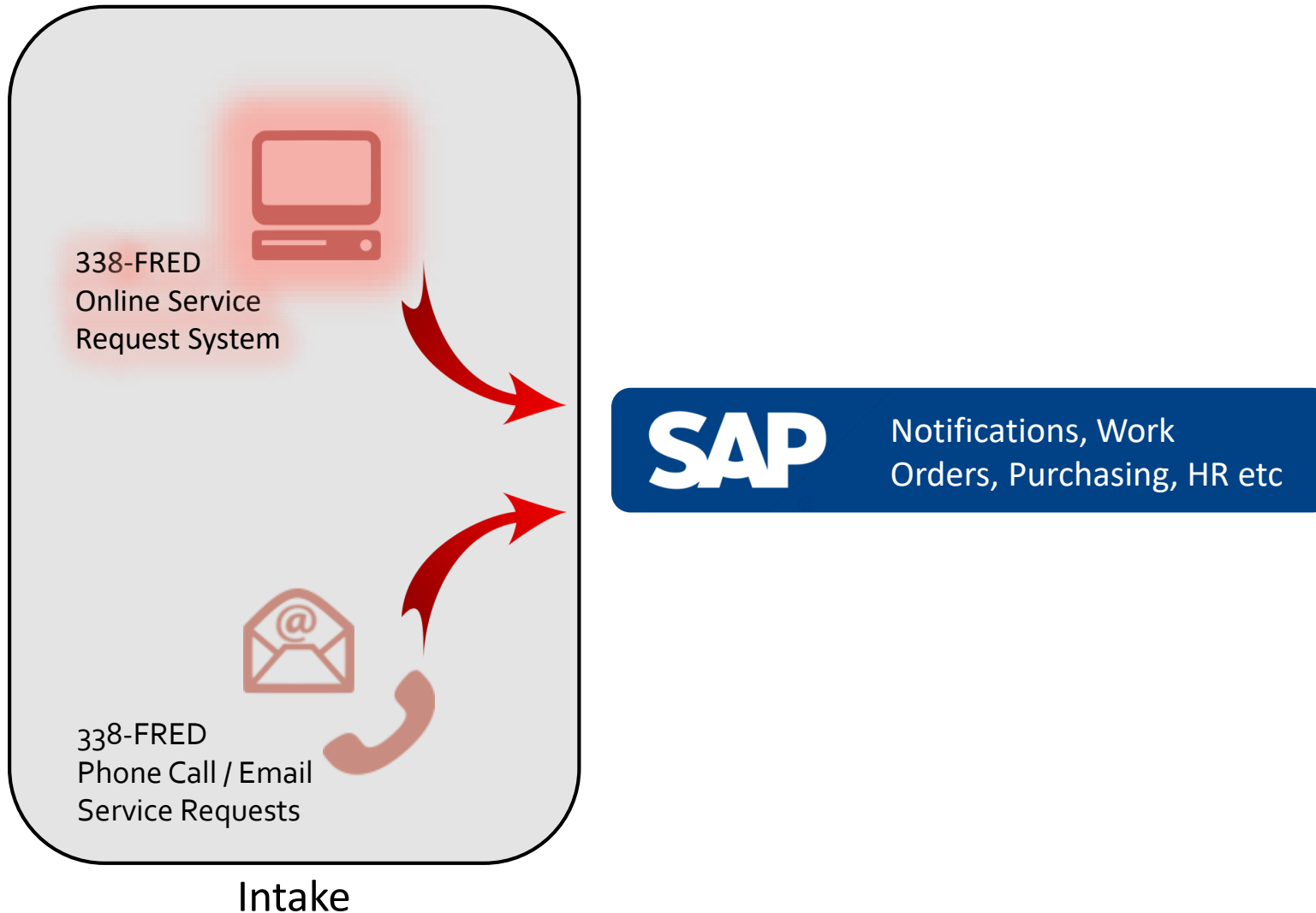


## Guiding Principles

- SAP is the system of record
- SAP standard first, but only if it makes sense (TTM + ROI)
- Get creative – think outside of the box but inside the corporation!!



## So what did we do?



### Guiding principles

- Fast, easy!

### Look to SAP standard first

- No off-the-shelf solution


### Answer: custom build

- Leverage existing tools/infrastructure..



https://we.toronto.ca/intra/fmd/338fredprod.nsf/nrfm?openform

File Edit View Favorites Tools Help

 **Facilities Operations**

[InsideTO](#) | [Facilities Management](#) | [338-FRED Services](#)

## Create a Service Request

**338FRED.Toronto.ca**

Novell Username:

Novell Password:


[Forgot your password?](#)

I have an **emergency** request

Sign In

**First time here?**

Simply sign in to this site and you will be able to create a service request within minutes.



Your service request will be routed to the appropriate Facilities Management representative.

**Having trouble signing in?**

Click [here](#) for help.

**Notice of Collection:** Facilities Operations collects personal information on this form under authority of the City of Toronto Municipal Code, Chapter 169, Article I, ss. 169-1 and 169-4 and the City of Toronto Act, 2006, s. 136(c). Information will be used to verify and service your work order request and for program accounting and administration. Questions about this collection can be directed to the Director, Facilities Operations, Room 203, 2nd Floor, Metro Hall, 55 John Street, Toronto, ON M5V 3C6.



## Online Service Request System

Focus on user experience

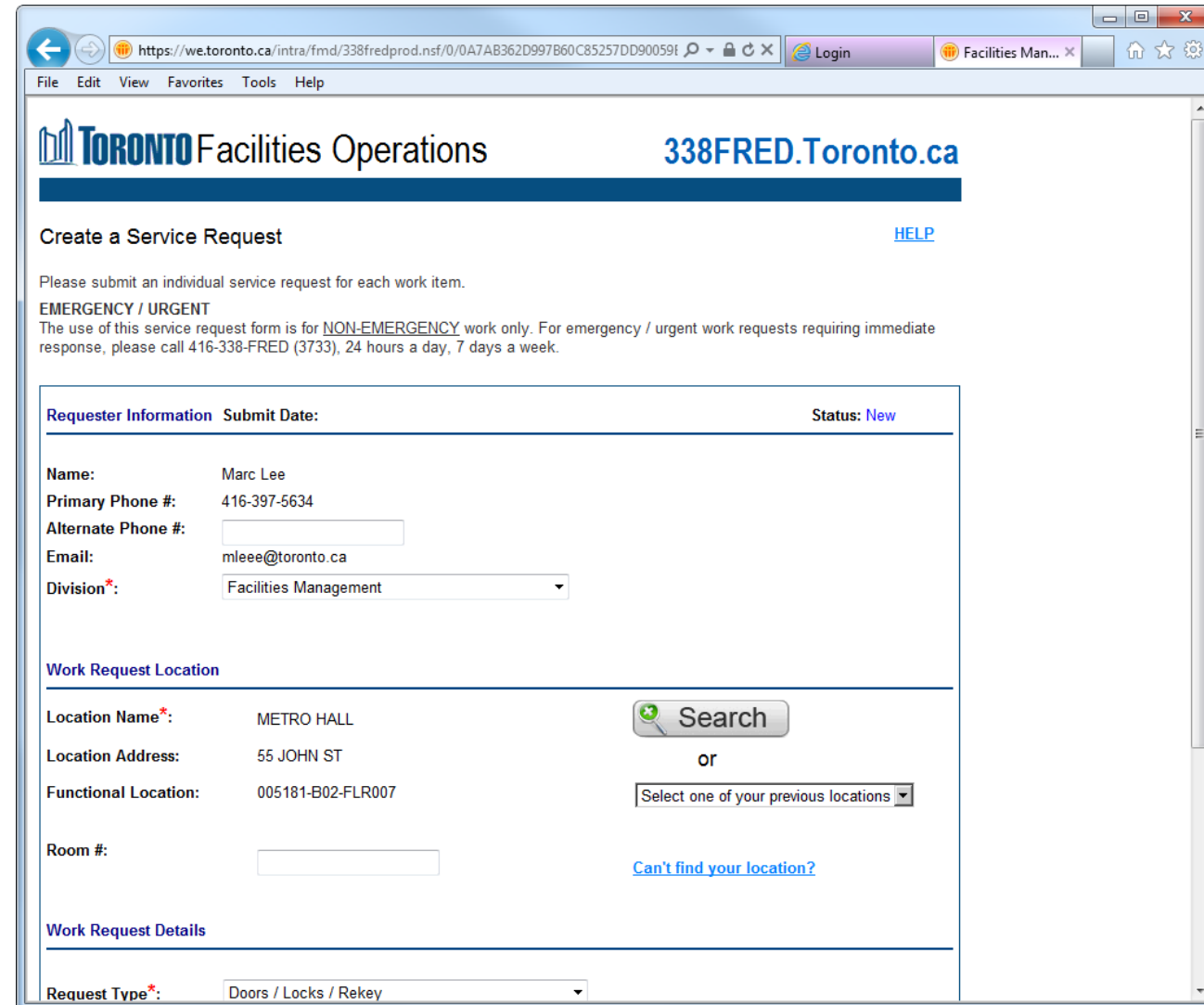
- Fast and easy!

Only 2 questions:

1. Where are you?
2. How can we help?

Internal and External clients

But how do we change client behaviour??



The screenshot shows a web browser window with the URL <https://we.toronto.ca/intra/fmd/338fredprod.nsf/0/0A7AB362D997B60C85257DD900591>. The page title is "Toronto Facilities Operations" and the URL is "338FRED.Toronto.ca". The main heading is "Create a Service Request" with a "HELP" link. Below this, a note states: "Please submit an individual service request for each work item. EMERGENCY / URGENT The use of this service request form is for NON-EMERGENCY work only. For emergency / urgent work requests requiring immediate response, please call 416-338-FRED (3733), 24 hours a day, 7 days a week." The form is divided into sections: "Requester Information" and "Work Request Location". The "Requester Information" section includes fields for Name (Marc Lee), Primary Phone # (416-397-5634), Alternate Phone # (empty), Email (mleee@toronto.ca), and Division\* (Facilities Management). The "Work Request Location" section includes fields for Location Name\* (METRO HALL), Location Address (55 JOHN ST), Functional Location (005181-B02-FLR007), and Room # (empty). There is a "Search" button and a dropdown menu labeled "Select one of your previous locations". A link "Can't find your location?" is also present. The "Work Request Details" section includes a "Request Type\*" dropdown menu with the selected option "Doors / Locks / Rekey".



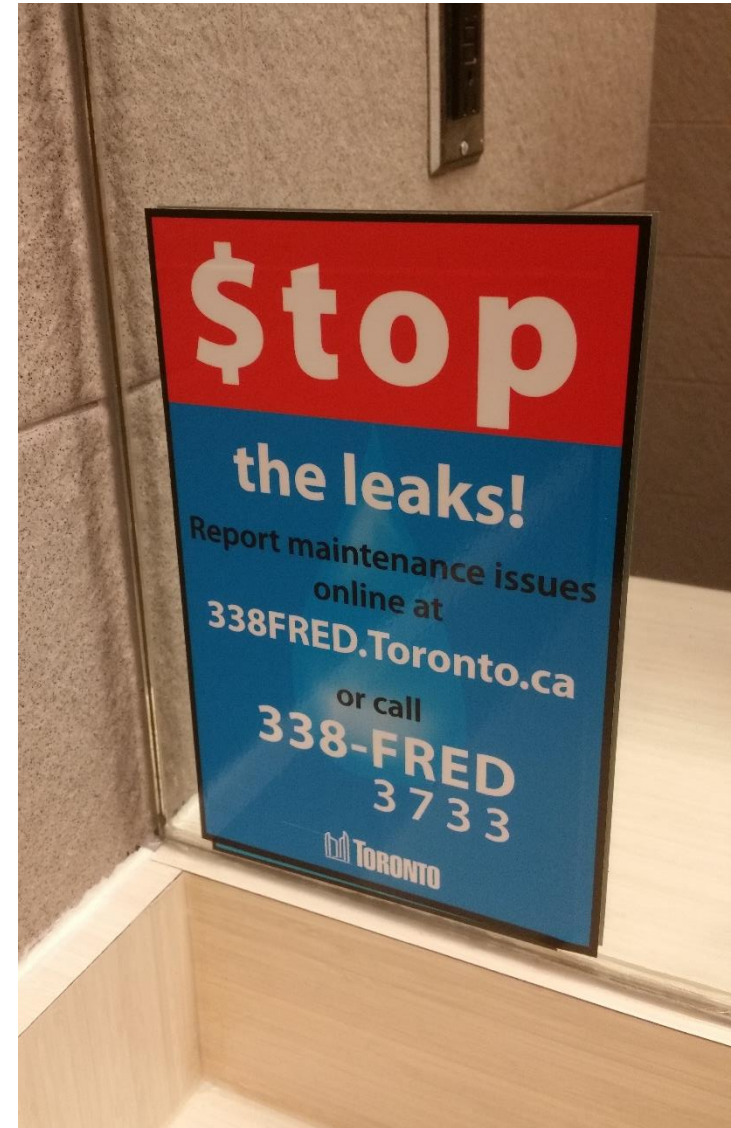
## Getting the message out

### Solution: advertising campaign

- Memos and broadcast messages
- Stickers in washrooms and by sinks, flyers on bulletin boards
- Same number/branding (338-FRED)

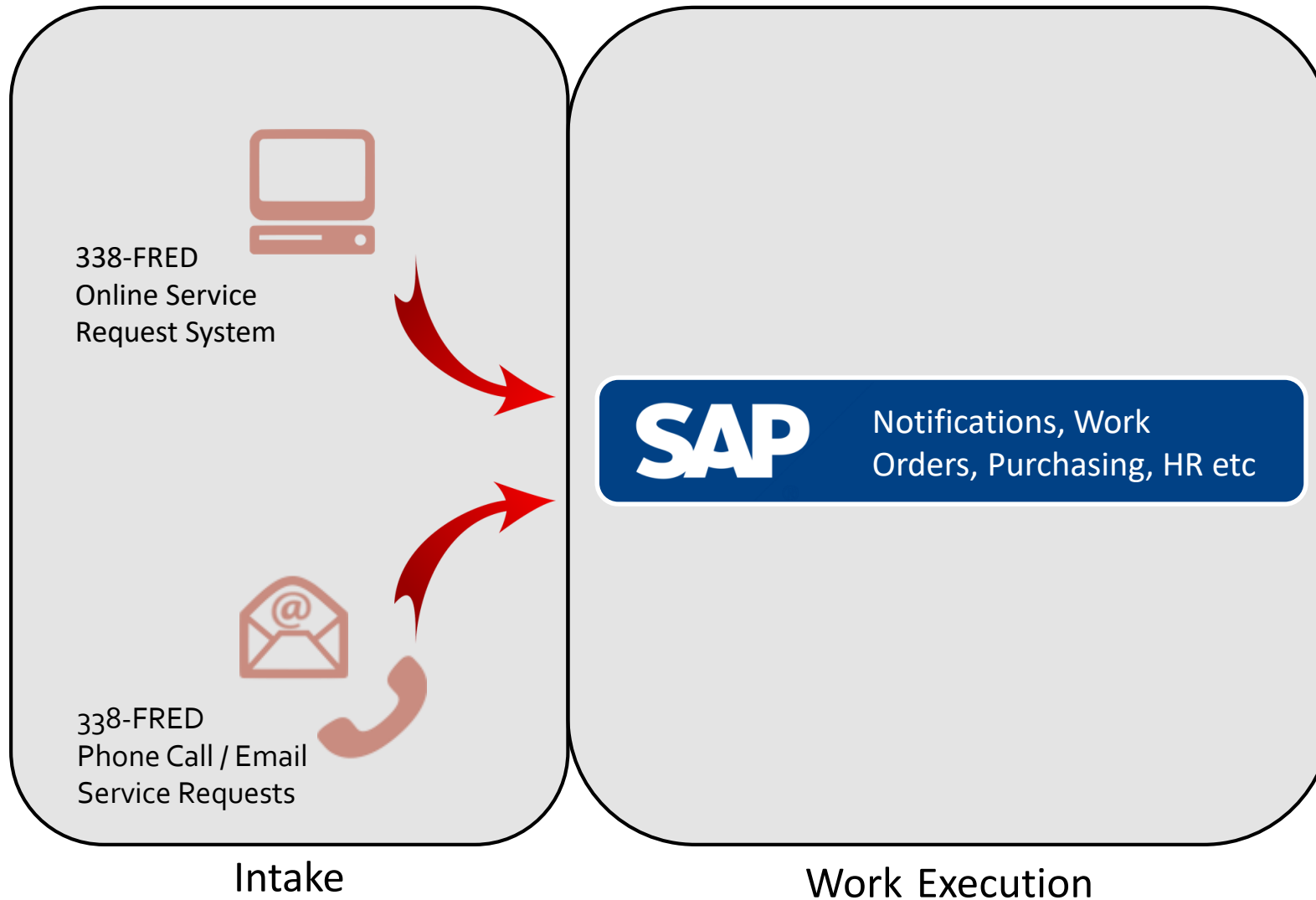
### Result:

- 50% ↓ in calls!
- Saved ~200 person days / year





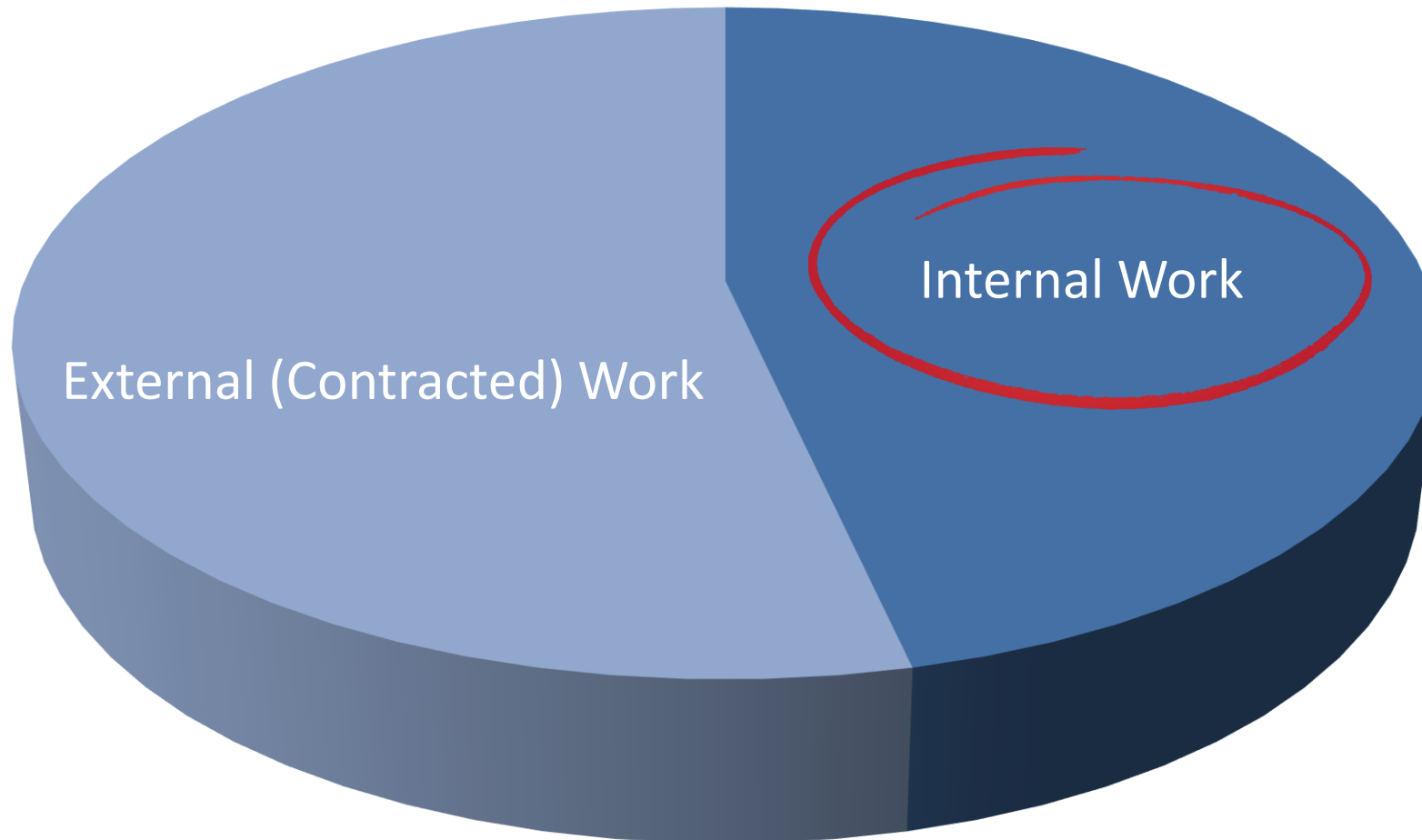
## So what did we do?





## Work Breakdown

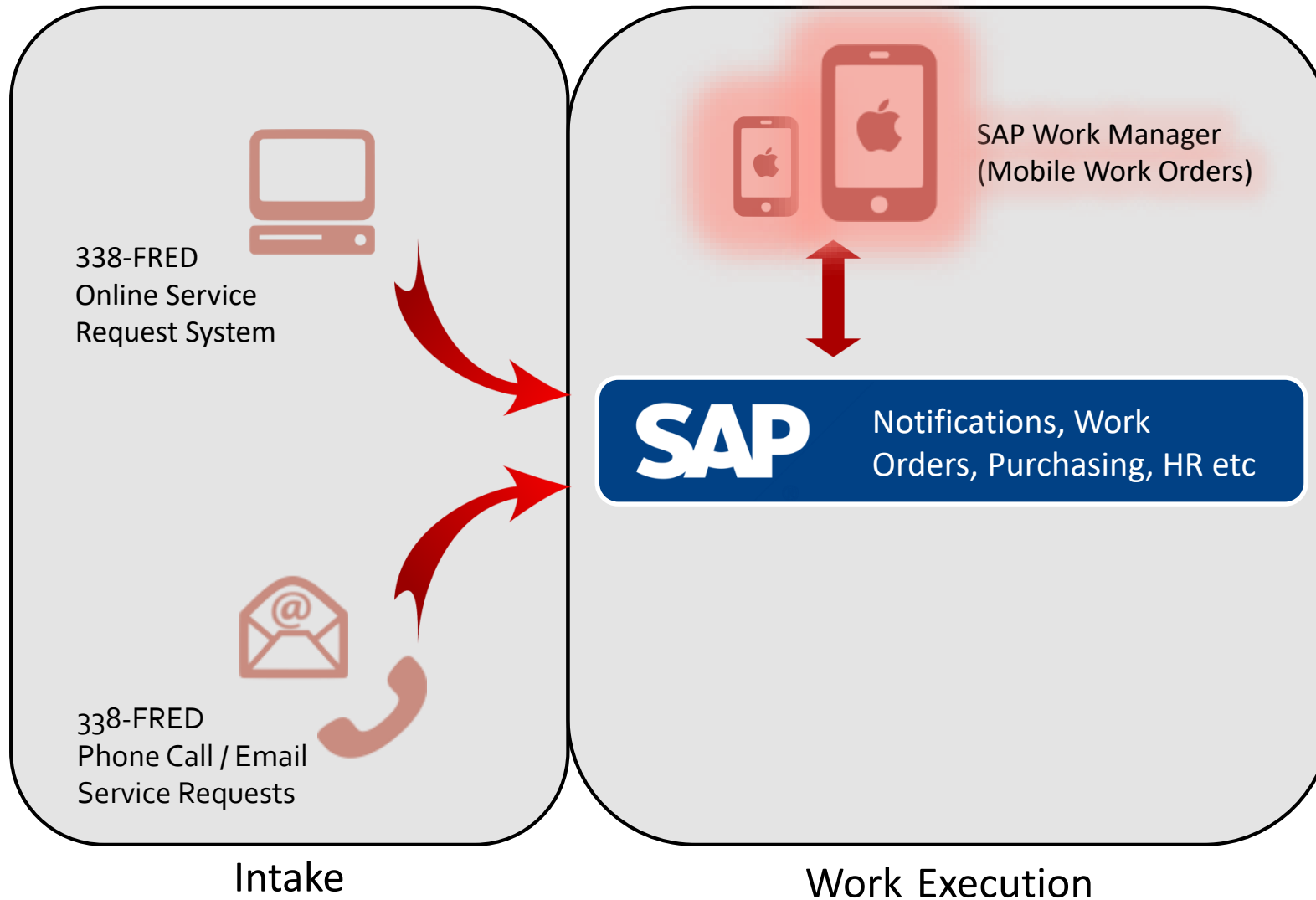
Internal vs. External Demand Work (\$)



- Paper based
- Delayed data entry
- Misplaced WOs
- Manually intensive

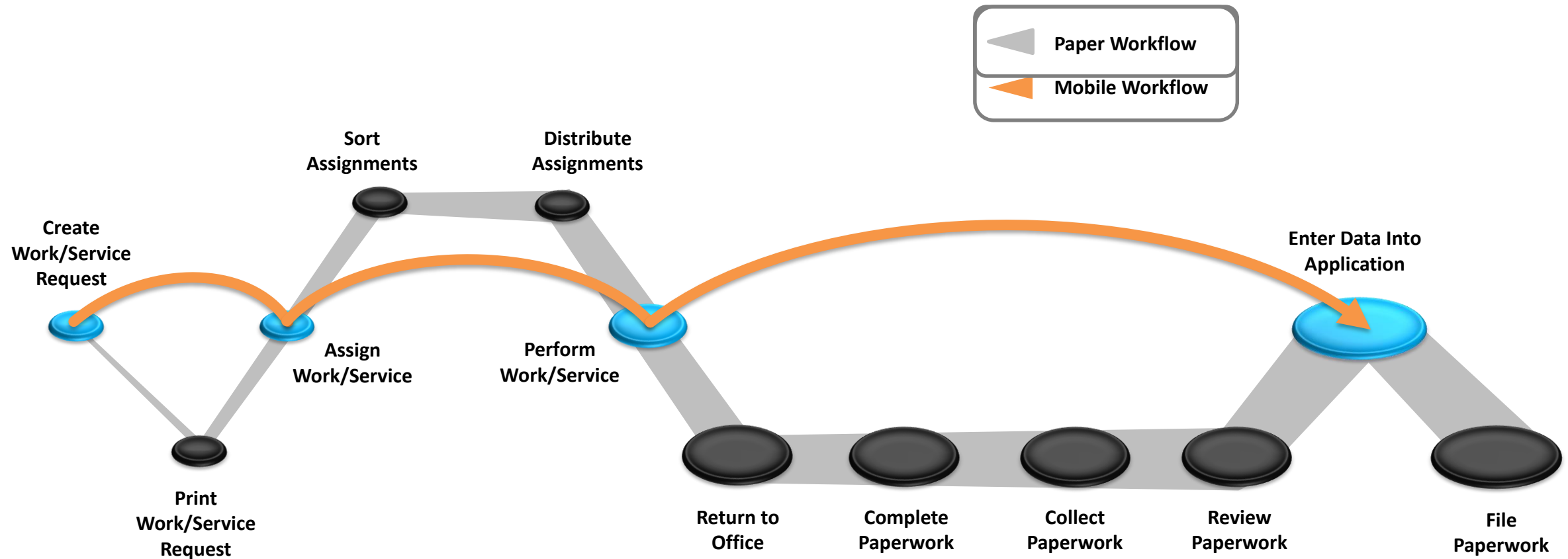


## So what did we do?





## Why Go Mobile?





## Mobile Work Orders Project scope

Key processes mobilized:



Work Order  
Management



Purchasing



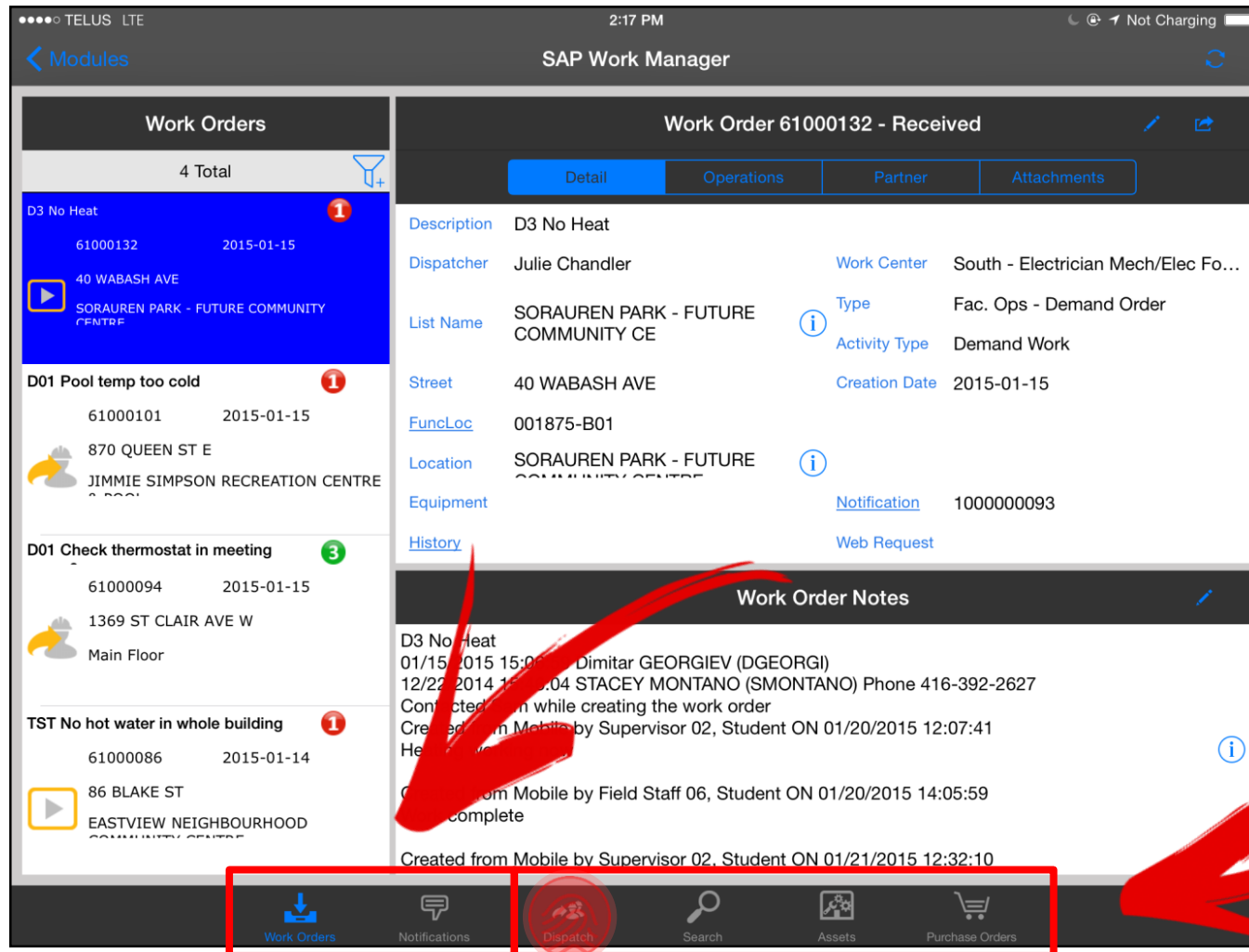
Credit Card  
Transactions



Asset Data  
Collection



## Mobile Work Order Management Supervisor Work Order Dispatch (iPad)



The screenshot displays the SAP Work Manager mobile application interface. The top status bar shows 'TELUS LTE', '2:17 PM', and 'Not Charging'. The app title 'SAP Work Manager' is centered at the top. Below the title, there are two main sections: 'Work Orders' on the left and 'Work Order 61000132 - Received' on the right. The 'Work Orders' section lists four items, each with a status icon (1, 1, 3, 1) and a play button icon. The 'Work Order 61000132 - Received' section shows details for a 'D3 No Heat' work order, including the dispatcher 'Julie Chandler', location '40 WABASH AVE', and creation date '2015-01-15'. Below the details is a 'Work Order Notes' section with a list of notes. The bottom navigation bar is highlighted with a red box and contains five icons: 'Work Orders', 'Notifications', 'Dispatch' (circled in red), 'Search', and 'Purchase Orders'. A large red arrow points from the 'Dispatch' icon in the bottom bar to the 'Work Order Notes' section.

### Standard functionality

- Work Orders
- Notifications

### Custom-built functionality

- Dispatch
- Search
- Assets
- Purchasing

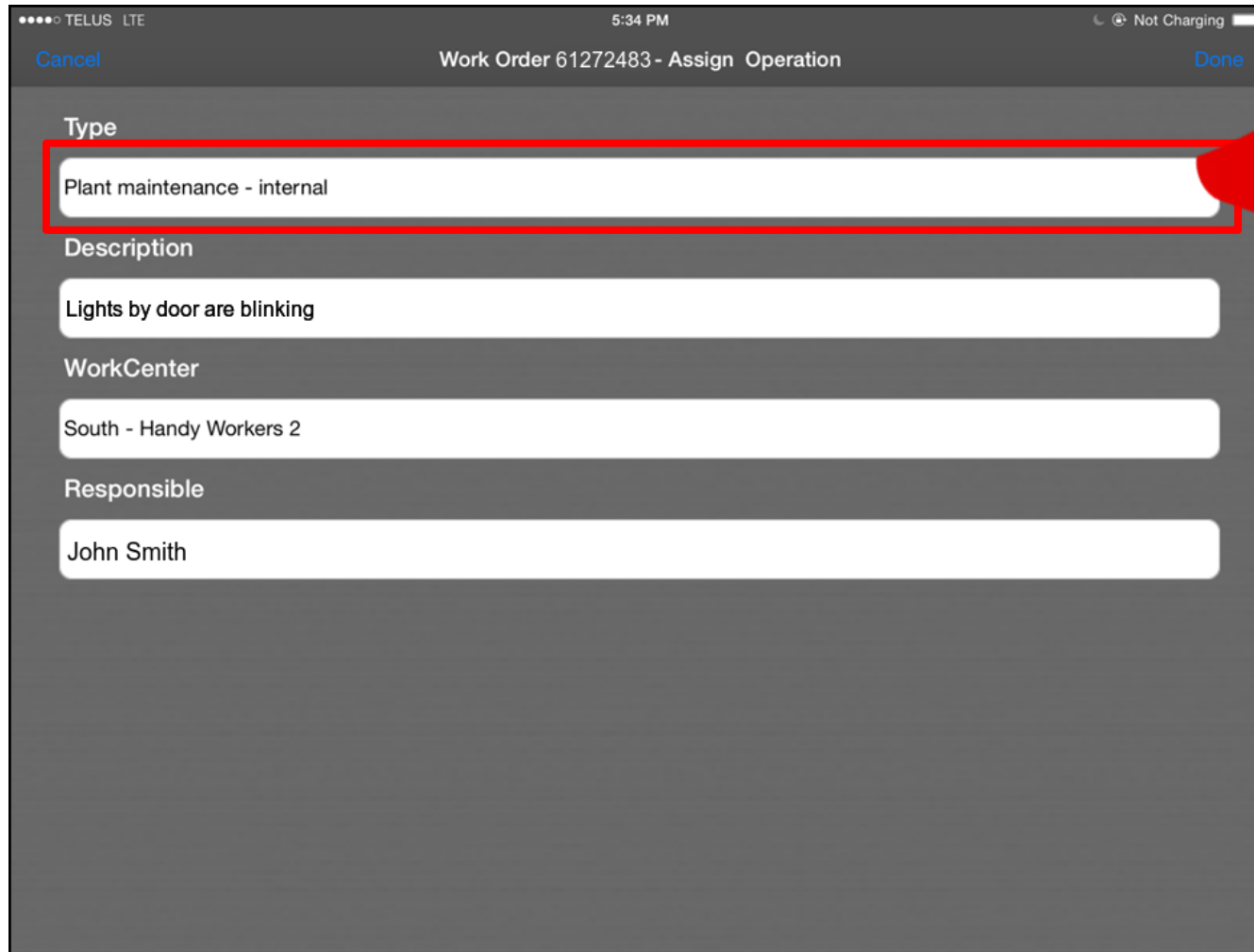






## Mobile Work Order Management

### Supervisor Work Order Dispatch (iPad)



TELUS LTE 5:34 PM Not Charging

Cancel Work Order 61272483 - Assign Operation Done

Type

Plant maintenance - internal

Description

Lights by door are blinking

WorkCenter

South - Handy Workers 2

Responsible

John Smith

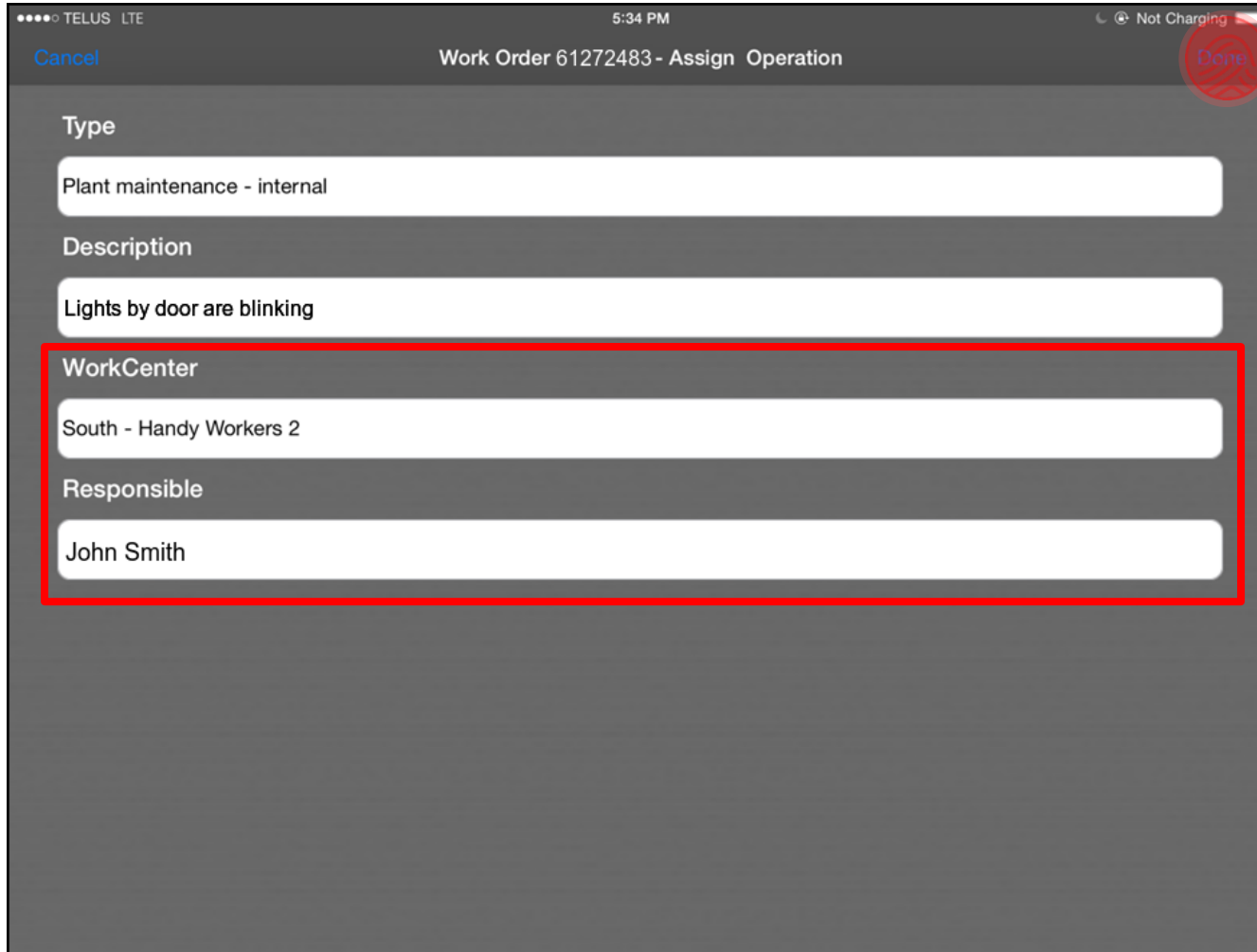
Choose how to dispatch

- **Internal:** City staff
- **External:** External vendor



## Mobile Work Order Management

### Supervisor Work Order Dispatch (iPad)



TELUS LTE 5:34 PM Not Charging

Cancel Work Order 61272483 - Assign Operation Done

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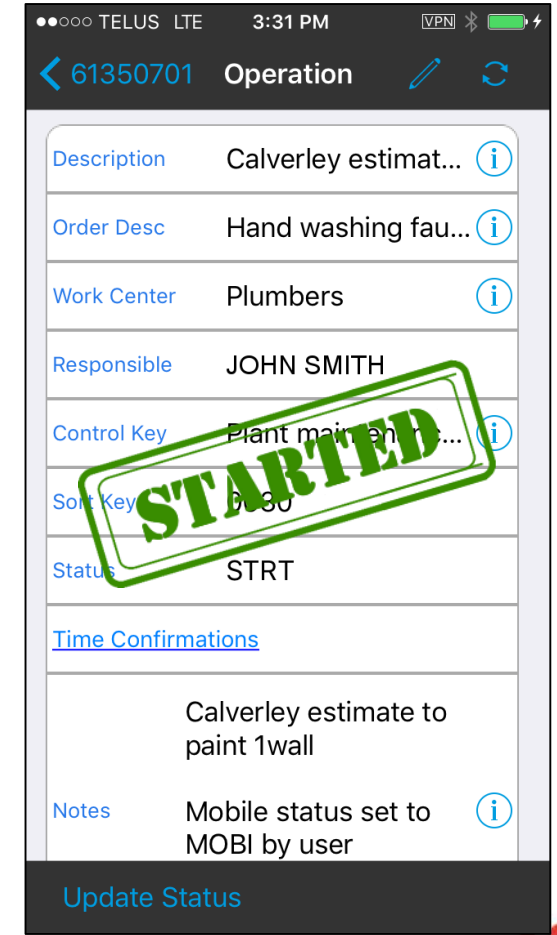
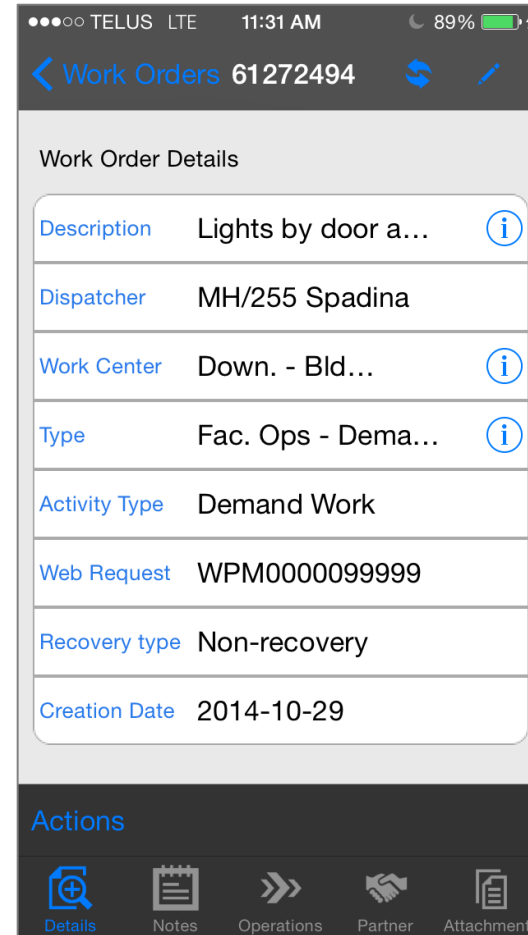
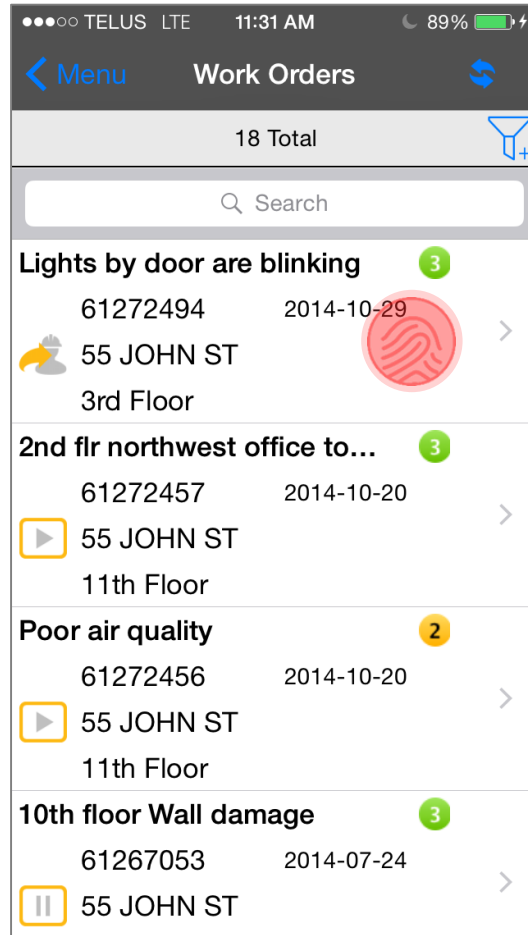
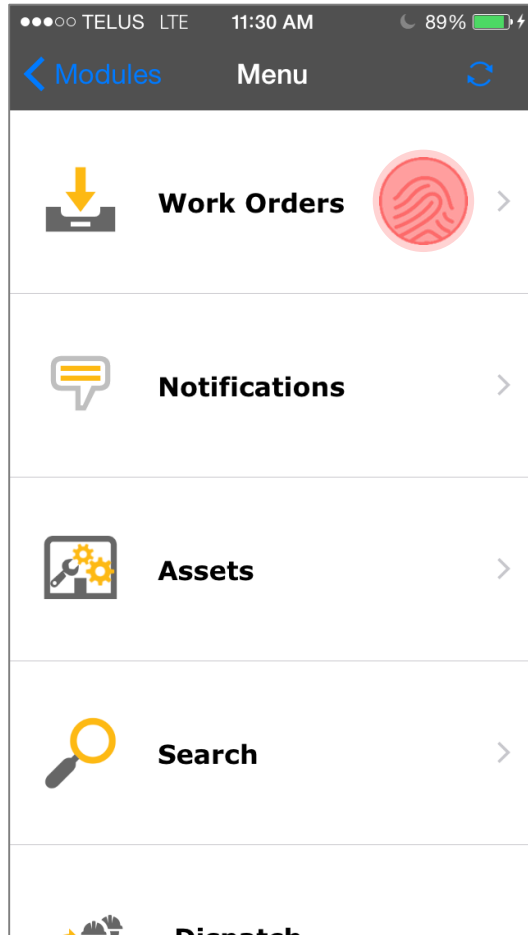
Responsible

John Smith



## Mobile Work Order Management

### Internal Work Received & Started (iPhone)





## Mobile Work Order Management Internal Work Closeout (iPhone)

TELUS LTE 13:40 75%

< WO 61000112 Oper... /

Description inspect & service fan units ⓘ

Order Desc inspect & service fan units

Work Center South - Electrician Mech/Elec ⓘ

Responsible Student Field Staff 01

Is your work complete?

No Yes

Status STRT

Time Confirmation

inspect & service fan units

Mobile status set to MOBI by user PMSTUDFS01 on 2015-04-09 18:39:55 for operation 0020 ⓘ

Update Status

TELUS LTE 13:46 77%

< WO 61000112 Oper... /

Description inspect & service fan units ⓘ

Order Desc inspect & service fan units

Work Center South - Electrician Mech/Elec ⓘ

Responsible Student Field Staff 01

Transfer work to other group?

No Yes

Status STRT

Time Confirmation

inspect & service fan units

Mobile status set to MOBI by user PMSTUDFS01 on 2015-04-09 18:39:55 for operation 0020 ⓘ

Update Status

TELUS LTE 15:32 100%

Cancel Work Order 6100011... Next >

inspect & service fan units

Equipment worked on

-NONE-

Add Repair Notes

Fan units inspected ⓘ

Damage

OPS Broken...amaged

Cause

OPS Wear / Tear

TELUS LTE 16:36 100%

Cancel Work Orders 6100011... Finish

Operation

inspect & service fan units ⓘ

Date

2015-04-28 15:00:51

Duration

0:45

Recovery Rate

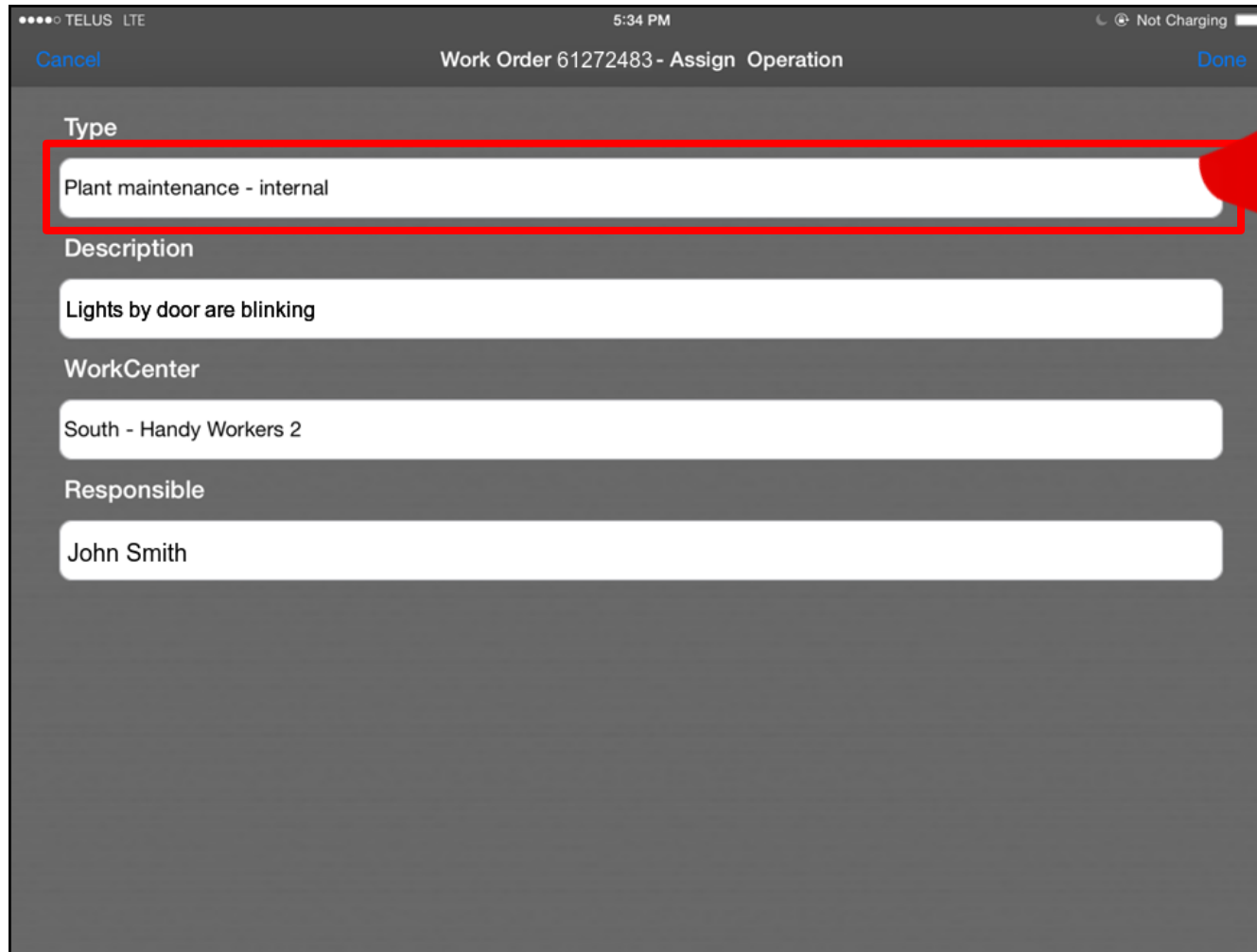
ELECM REGULAR

**COMPLETED**



## Mobile Work Order Management

### Supervisor Work Order Dispatch (iPad)



TELUS LTE 5:34 PM Not Charging

Cancel Work Order 61272483 - Assign Operation Done

Type

Plant maintenance - internal

Description

Lights by door are blinking

WorkCenter

South - Handy Workers 2

Responsible

John Smith

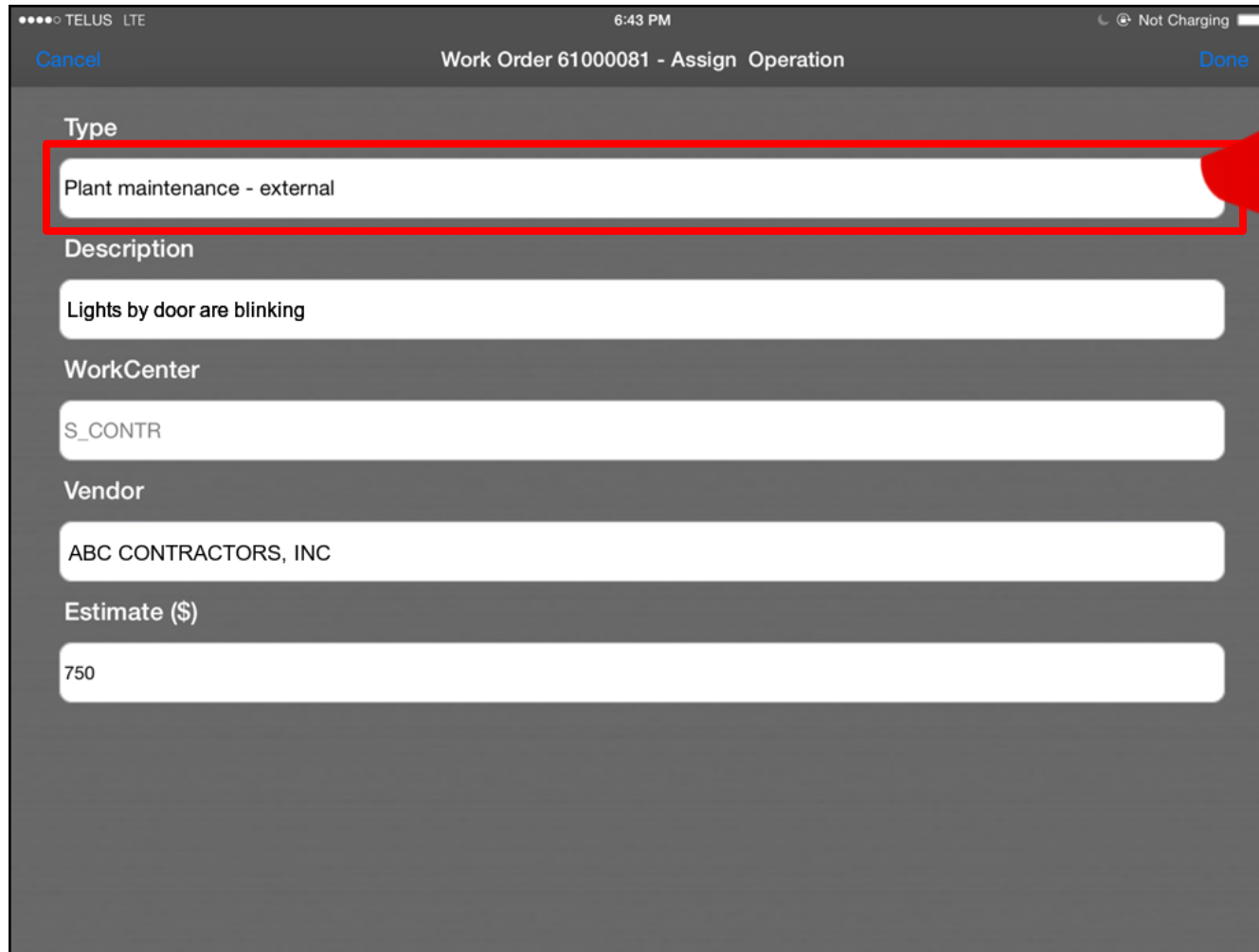
Choose how to dispatch

- **Internal:** City staff
- **External:** External vendor



## Mobile Work Order Management

### Supervisor Work Order Dispatch (iPad)



TELUS LTE 6:43 PM Not Charging

Cancel Work Order 61000081 - Assign Operation Done

Type

Plant maintenance - external

Description

Lights by door are blinking

WorkCenter

S\_CONTR

Vendor

ABC CONTRACTORS, INC

Estimate (\$)

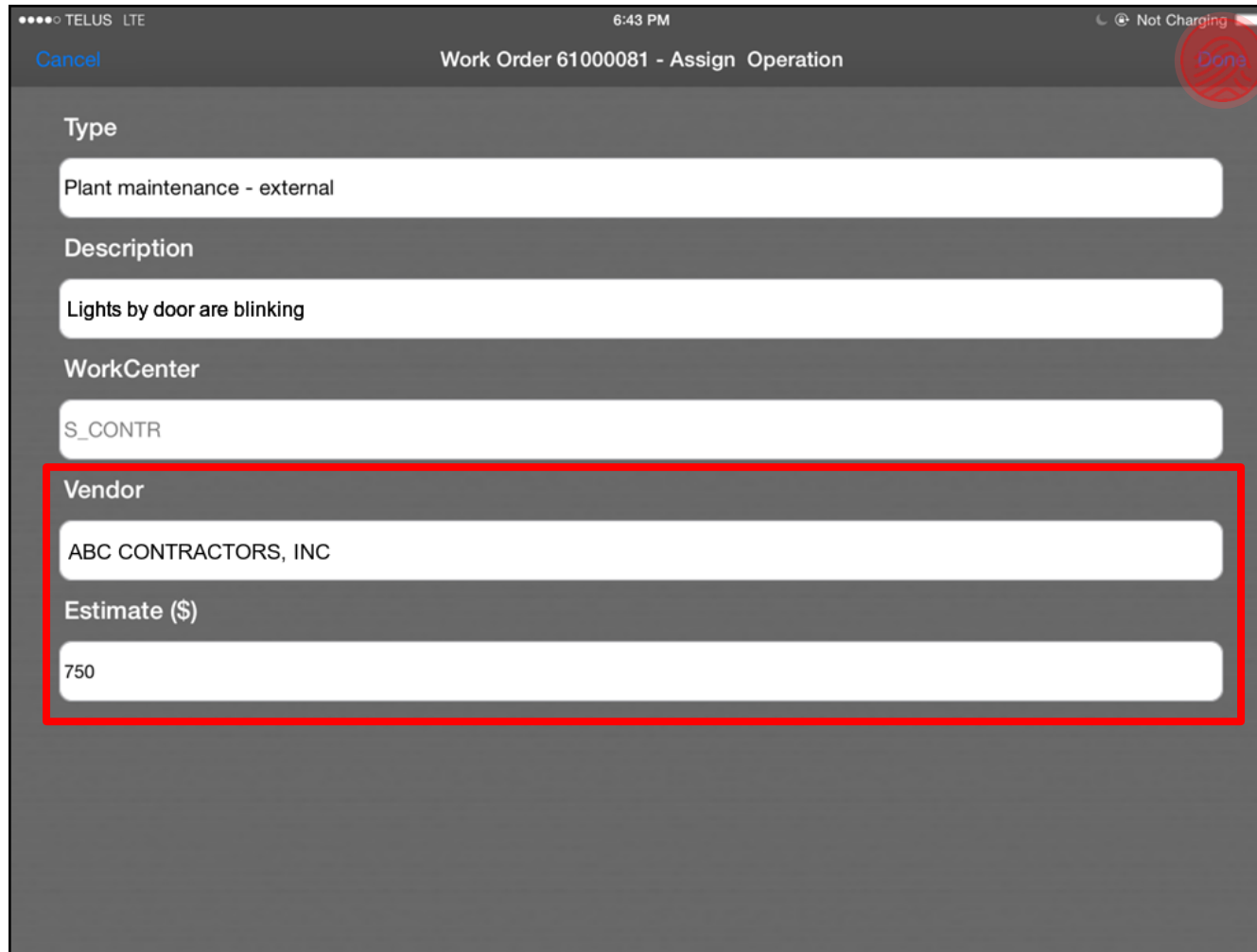
750

Choose how to dispatch

- Internal: City staff
- **External: External vendor**



## Mobile Work Order Management Supervisor Work Order Dispatch (iPad)



Work Order 61000081 - Assign Operation

Type  
Plant maintenance - external

Description  
Lights by door are blinking

WorkCenter  
S\_CONTR

Vendor  
ABC CONTRACTORS, INC

Estimate (\$)  
750

Dispatching to a contractor automatically creates a Purchase Req

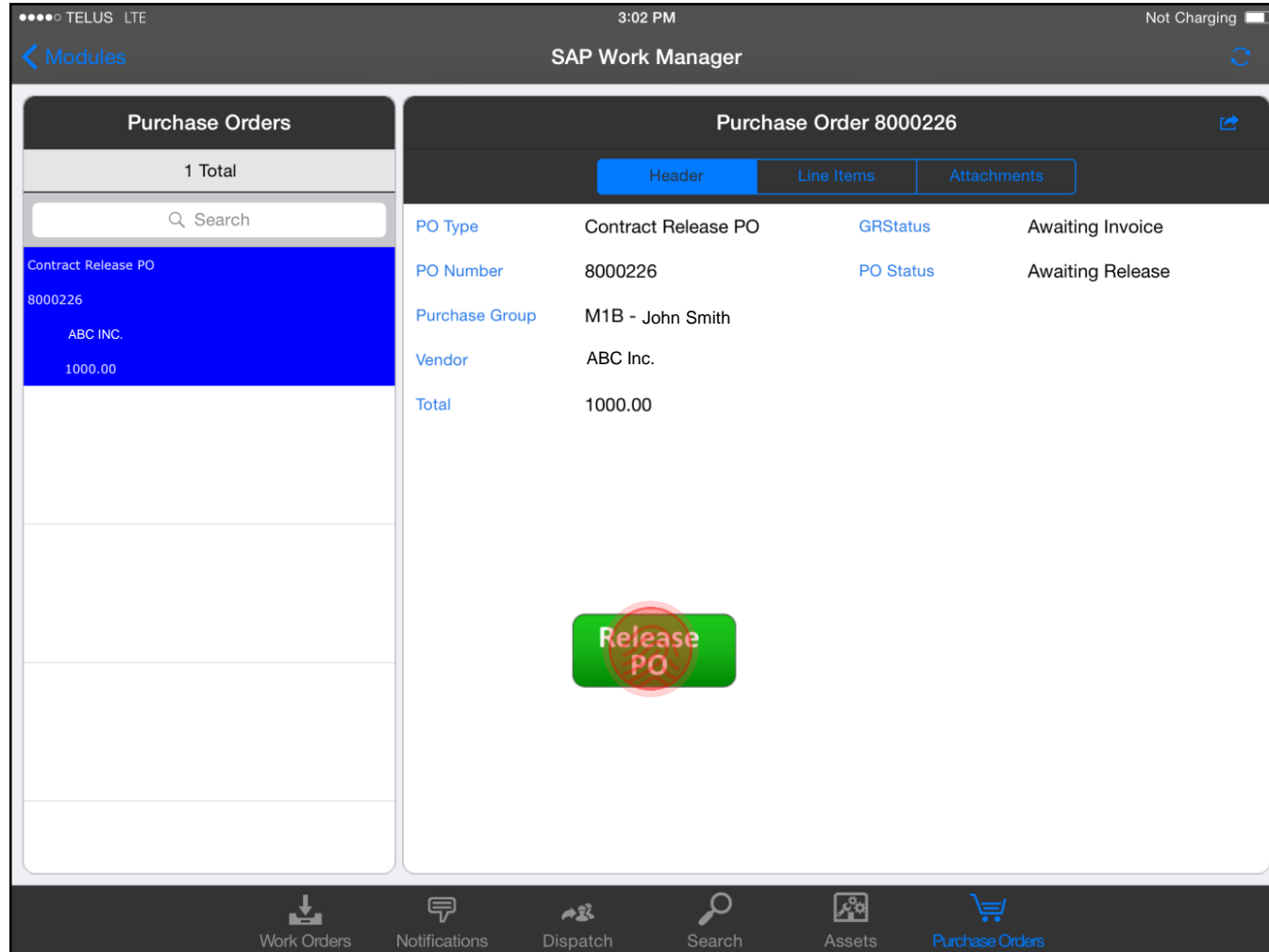
- Admin staff create Purchase Order from Purchase Req
- Purchase Order automatically sent to manager for review and approval





## Mobile Purchasing

### Releasing a Purchase Order (iPad)

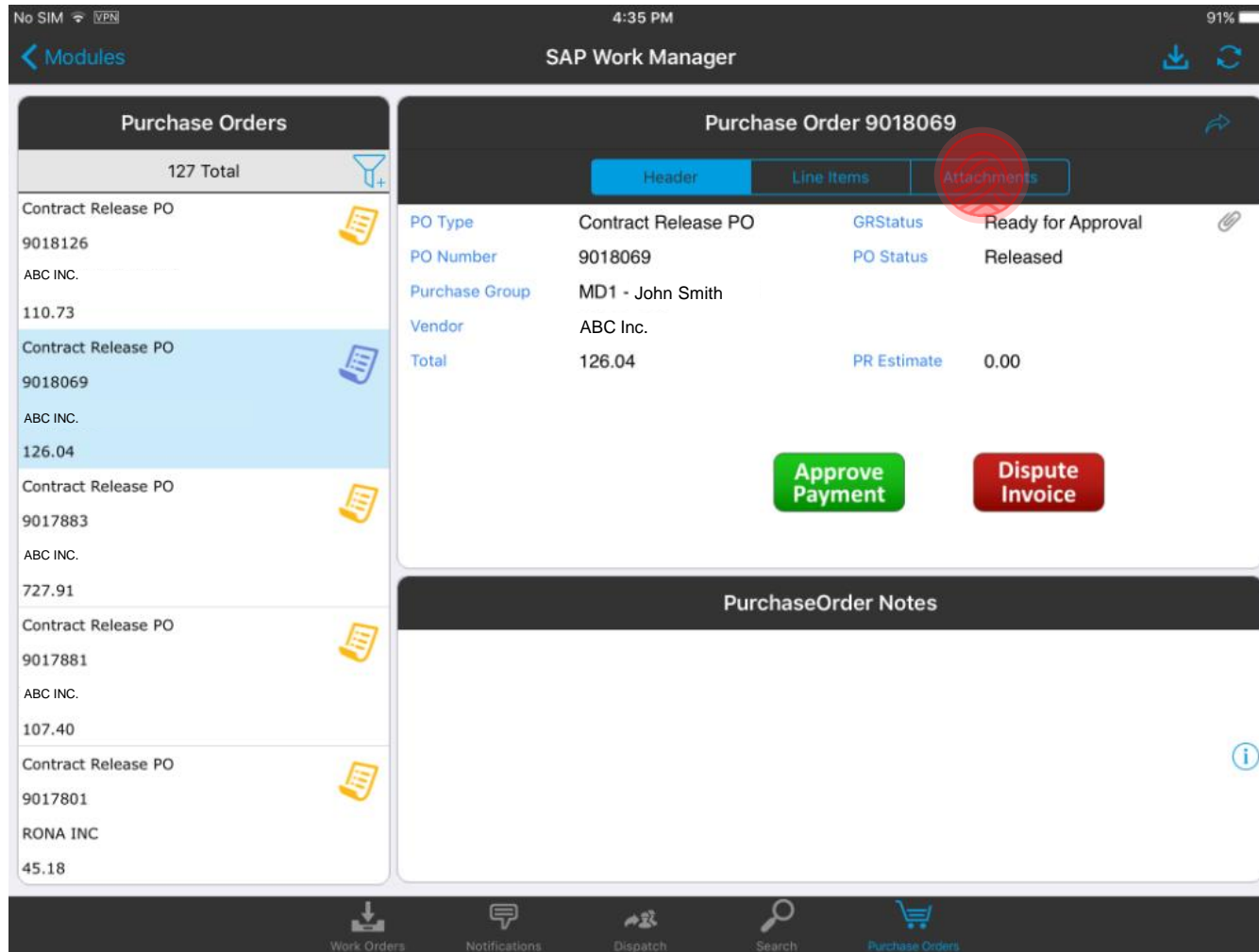


- Fast & easy
- See only *your* purchase orders
- Release a PO with *one touch*



## Mobile Purchasing

### View an Invoice and Approve Payment (iPad)



**Purchase Orders**

127 Total

Contract Release PO  
9018126  
ABC INC.  
110.73

Contract Release PO  
9018069  
ABC INC.  
126.04

Contract Release PO  
9017883  
ABC INC.  
727.91

Contract Release PO  
9017881  
ABC INC.  
107.40

Contract Release PO  
9017801  
RONA INC  
45.18

**Purchase Order 9018069**

Header | Line Items | Attachments

PO Type: Contract Release PO  
PO Number: 9018069  
Purchase Group: MD1 - John Smith  
Vendor: ABC Inc.  
Total: 126.04  
GRStatus: Ready for Approval  
PO Status: Released  
PR Estimate: 0.00

**Approve Payment** **Dispute Invoice**

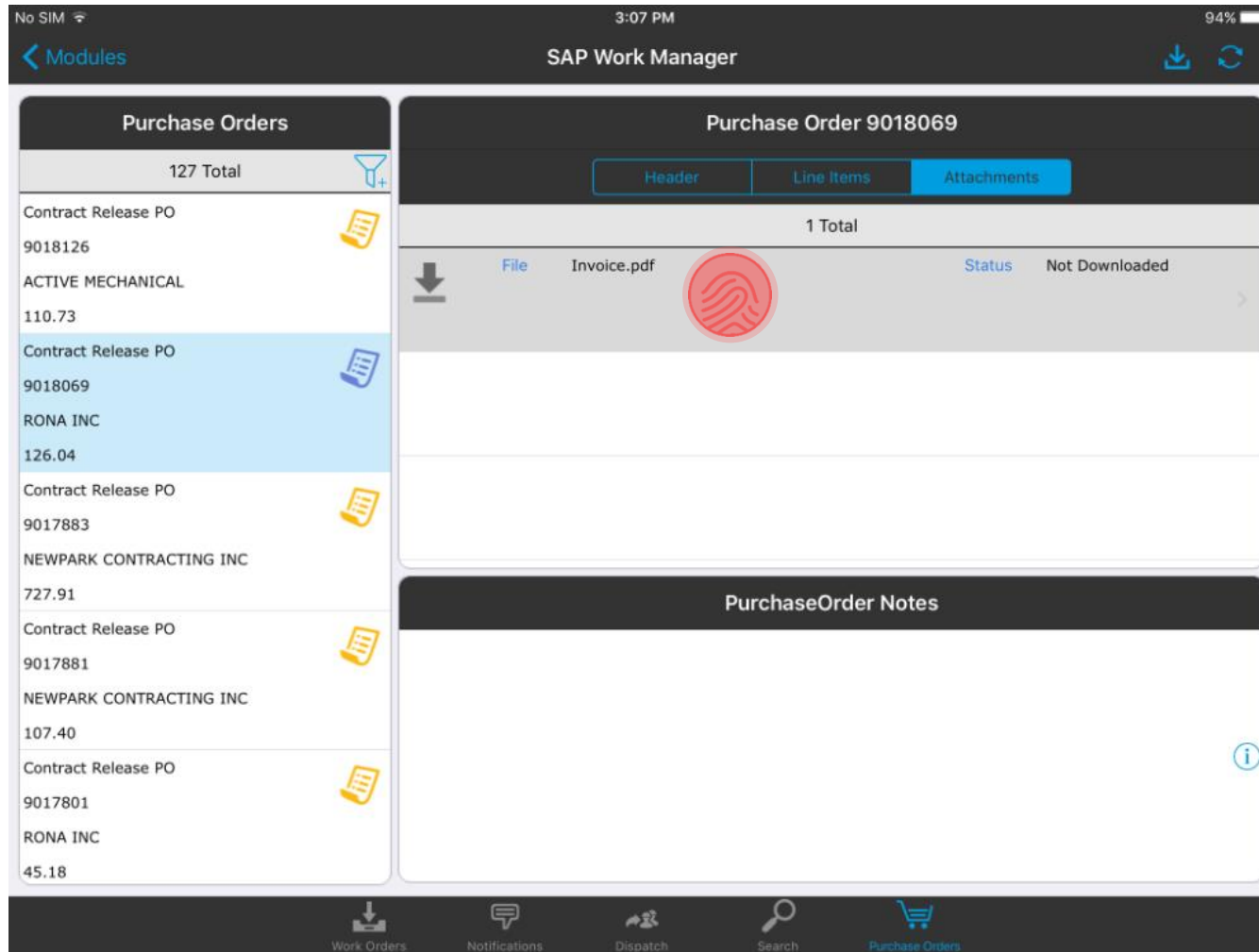
**PurchaseOrder Notes**

Work Orders | Notifications | Dispatch | Search | Purchase Orders



## Mobile Purchasing

View an Invoice and Approve Payment (iPad)



The screenshot displays the SAP Work Manager mobile application interface. The top status bar shows 'No SIM', '3:07 PM', and '94%' battery. The app header includes a 'Modules' link, the title 'SAP Work Manager', and download/refresh icons. The main content is split into two panels. The left panel, titled 'Purchase Orders', shows a list of 127 total orders. The right panel, titled 'Purchase Order 9018069', has tabs for 'Header', 'Line Items', and 'Attachments'. Under 'Attachments', there is a download icon, a file named 'Invoice.pdf', and a status of 'Not Downloaded'. Below this is a section for 'PurchaseOrder Notes'. The bottom navigation bar contains icons for 'Work Orders', 'Notifications', 'Dispatch', 'Search', and 'Purchase Orders'.

Contract Release PO	127 Total
9018126	
ACTIVE MECHANICAL	
110.73	
Contract Release PO	
9018069	
RONA INC	
126.04	
Contract Release PO	
9017883	
NEWPARK CONTRACTING INC	
727.91	
Contract Release PO	
9017881	
NEWPARK CONTRACTING INC	
107.40	
Contract Release PO	
9017801	
RONA INC	
45.18	



## Mobile Purchasing

### View an Invoice and Approve Payment (iPad)

TELUS LTE 10:34 AM 34%

< SAP Work Manager

Name: ABC Inc. - INV#2568 - SAPDOC#9105802194.pdf

Type: application/pdf Size: 308644 bytes

SAPDOC #  
9105802194

Accounts Payable 11/25/2015 9:21:51 AM

ABC Inc.  
1234 Main St.  
Toronto, ON M5X 2MY

001387665

Invoice

BILL TO

City of Toronto  
Accounting Services Division  
Corporate Accounts Payable  
55 John St. 14 Floor, Metro Hall  
Toronto, ON M5V 3C6

CRO#  
895251

Site Address

City of Toronto  
Facilities Management  
Fred Rodgers - 4163979017  
677 Wellington St W

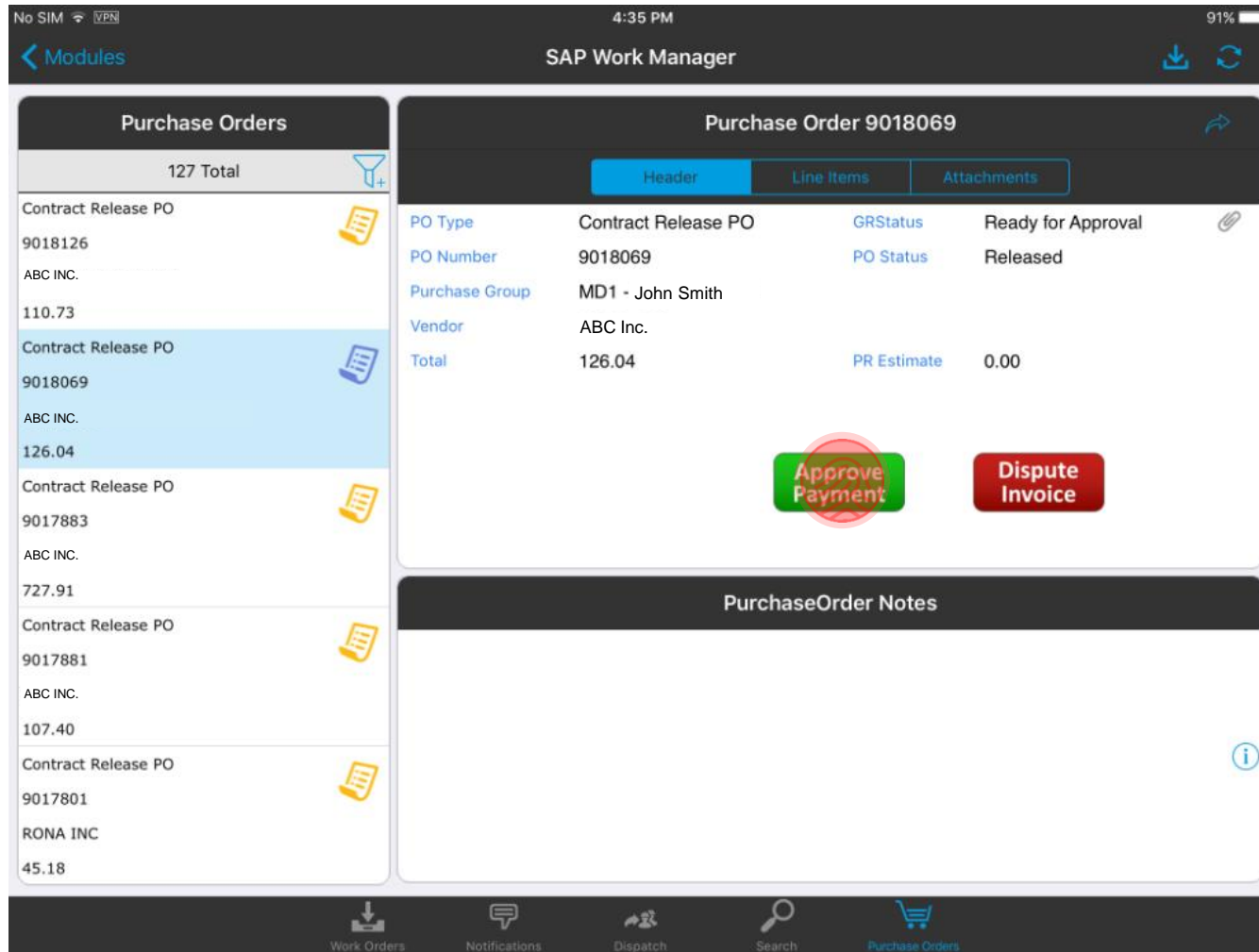
DATE	P.O. No.	TERMS	DUE DATE	PROPOSAL #	INVOICE #
17/11/2015	31311713	Net 30 days	17/12/2015	78085253	22682
DESCRIPTION			QTY	RATE	AMOUNT

Clear



## Mobile Purchasing

### View an Invoice and Approve Payment (iPad)



**Purchase Orders**

127 Total

Contract Release PO  
9018126  
ABC INC.  
110.73

Contract Release PO  
9018069  
ABC INC.  
126.04

Contract Release PO  
9017883  
ABC INC.  
727.91

Contract Release PO  
9017881  
ABC INC.  
107.40

Contract Release PO  
9017801  
RONA INC  
45.18

**Purchase Order 9018069**

Header | Line Items | Attachments

PO Type: Contract Release PO  
PO Number: 9018069  
Purchase Group: MD1 - John Smith  
Vendor: ABC Inc.  
Total: 126.04  
GRStatus: Ready for Approval  
PO Status: Released  
PR Estimate: 0.00

**Approve Payment** **Dispute Invoice**

**PurchaseOrder Notes**

Work Orders | Notifications | Dispatch | Search | Purchase Orders



## Mobility Project Outcomes

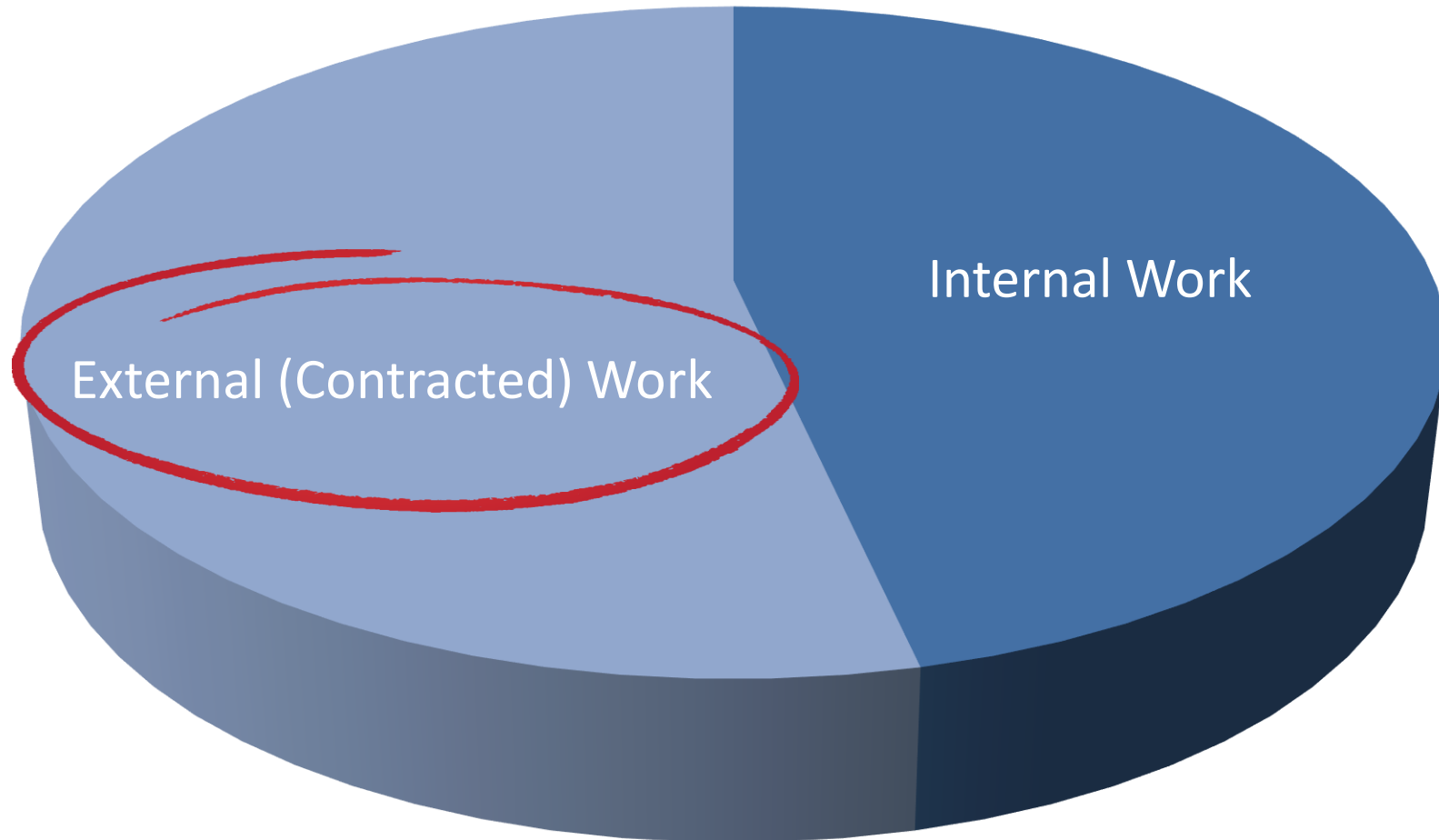
- ✓ Rolled out to all Supervisors, Managers, and Directors
  - ~200 total users with iPhones/iPads
- ✓ All new processes are paperless
- ✓ Up-to-date Work Order status
- ✓ Standardized processes across the Division
  - Data is aligned for metrics for common reporting
- ✓ Mobilized workforce – work any time, any place
- ✓ Modern workplace – more attractive to new talent..



## Work Breakdown

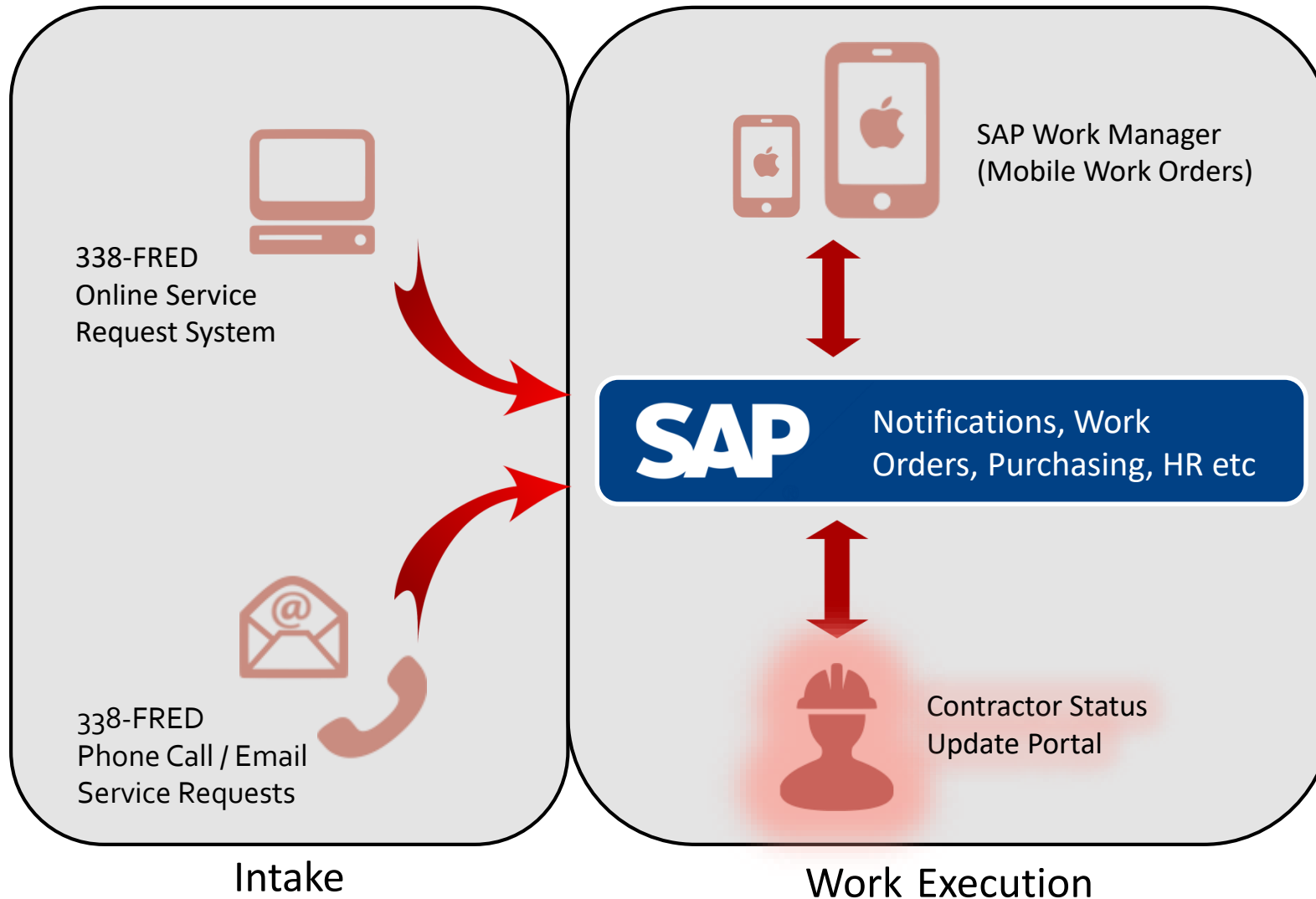
Internal vs. External Demand Work (\$)

- No visibility
- Manually-intensive processes
- Metrics data not captured





## So what did we do?



### Guiding principles

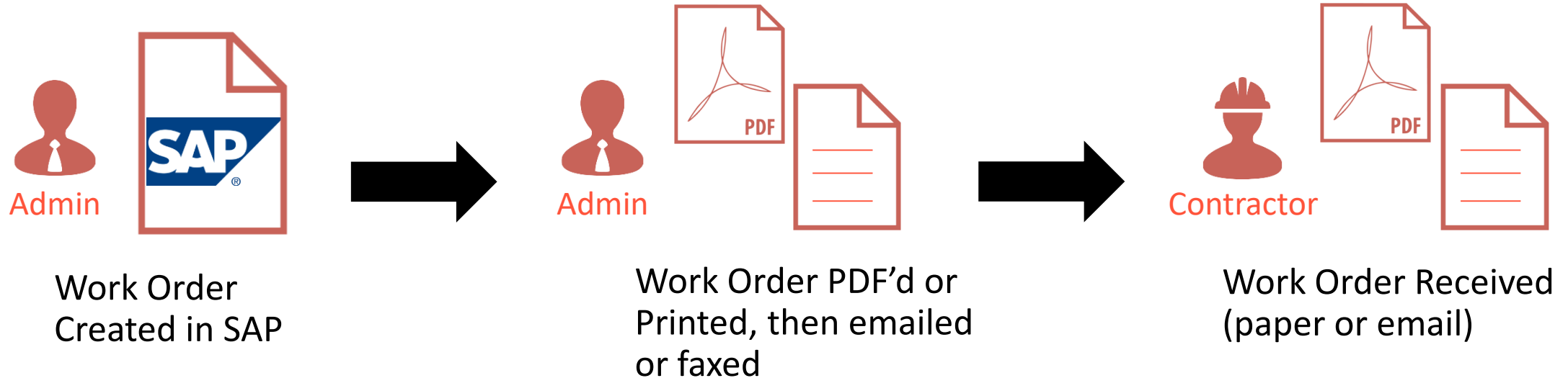
1. Has to be simple to use!
2. Few clicks!
3. Low administrative effort
4. Applicable to all contractors
5. Should work on both desktops and mobile devices
6. Direct 2-way integration with SAP



## Contractor Status Update Portal

### Dispatching Work to Contractors

Previously, admin staff manually sent new work to contractors



✗ PO not mandatory

✗ Manually intensive

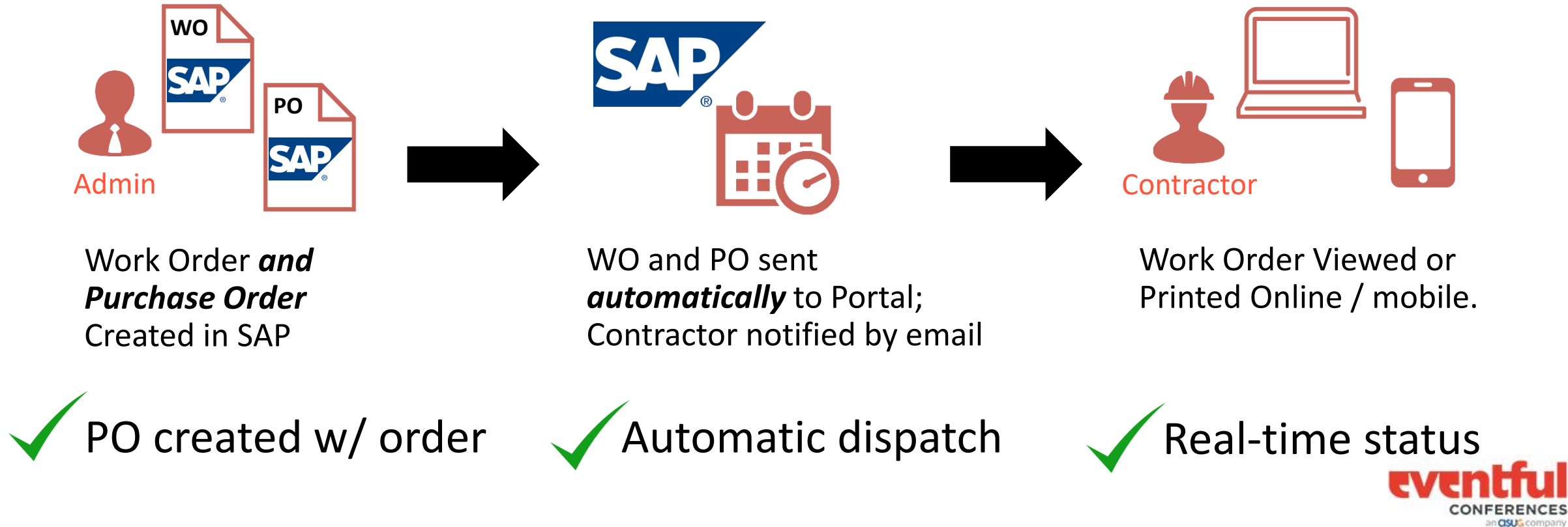
✗ No status updates



## Contractor Status Update Portal

### Dispatching Work to Contractors

Now, contractors automatically receive new work via CSU





## Contractor Status Update Portal

### Work Status Updates Directly from Contractors

Focus on user experience

- Must be intuitive and fast

Only 2 questions:

1. When did you first arrive on site? (response)
2. When did you complete the job? (resolve)

66% of status updates now entered *directly* by contractors!

### Desktop

**Toronto Facilities Operations - Contractor Status Update**

ABC CONTRACTING INC. - Dashboard

Status:  Sort by:  Refresh

Displaying  of total 215 Type:  Previous Next

Order #	Status	PO #	Short Description	Address	Location	Priority	Type	Dispatched
<a href="#">61326196</a>	New	9004866	Toilet In Rink #1 Is Clogged	140 COMMANDER BLVD	COMMANDER PARK ARENA & COMMUNITY CENTRE	L2 - Urgent	Demand	05/31/2016
<a href="#">61326133</a>	New	9002163	Pressure Washer Pipe is Leaking	61 TORYORK DR	TORYORK YARD - ROAD OPERATION GARAGE	L2 - Urgent	Demand	05/31/2016
<a href="#">61326056</a>	New	9001088	Men's Urinal not working	321 REXDALE BLVD	EMS STATION 14	L2 - Urgent	Demand	05/31/2016
<a href="#">61326055</a>	New	9001087	Water balancer Required	321 REXDALE BLVD	EMS STATION 14	L2 - Urgent	Demand	05/31/2016
<a href="#">61326053</a>	New	9001118	hose valve is leaking	259 HORNER AVE	EMS STATION 38	L2 - Urgent	Demand	05/31/2016
<a href="#">61326049</a>	New	9000957	Eye wash mixing valve	259 HORNER AVE	EMS STATION 38	L2 - Urgent	Demand	05/31/2016
<a href="#">69331280</a>	Not Started	T89919761	Leaking pressue washer pipe	2054 DAVENPORT RD	POLICE STATION - DIVISION 11	L3 - Necessary	Demand	05/23/2016
<a href="#">69331278</a>	Not Started	T89919761	Active operation 1 (West)	2054 DAVENPORT RD	POLICE STATION - DIVISION 11	L3 - Necessary	Demand	05/19/2016
<a href="#">61350574</a>	Not Started	9018416	Fall 2016 SPS Test	55 JOHN ST	METRO HALL	L2 - Urgent	Demand	10/26/2016
<a href="#">61350565</a>	Hold - Awaiting Quote*	9024500	Dom 9 Staging Test - Active Mechanical	55 JOHN ST	7th Floor	L3 - Necessary	Demand	10/12/2016
<a href="#">61350527</a>	Not Started	9024507	Repair Leaking Toilet	91 EASTPARK BLVD	CEDARBROOK COMMUNITY CENTRE	L3 - Necessary	Demand	11/29/2016

If you have questions about a work order, contact the District staff noted in the WO contact details.  
For technical issues please email CSUhelp@toronto.ca

### Mobile

**Toronto Contractor Status Update**

Order #: 61004015  
 Description: Too hot  
 District: South  
 Address: 20 BALMORAL AVE, M4V 1J4  
 FIRE HALL NO. 311  
 Last updated: Nov 20, 2014 - 09:22:39

Step description:  
 Permanent fix required

Click a button from the toolbar below:

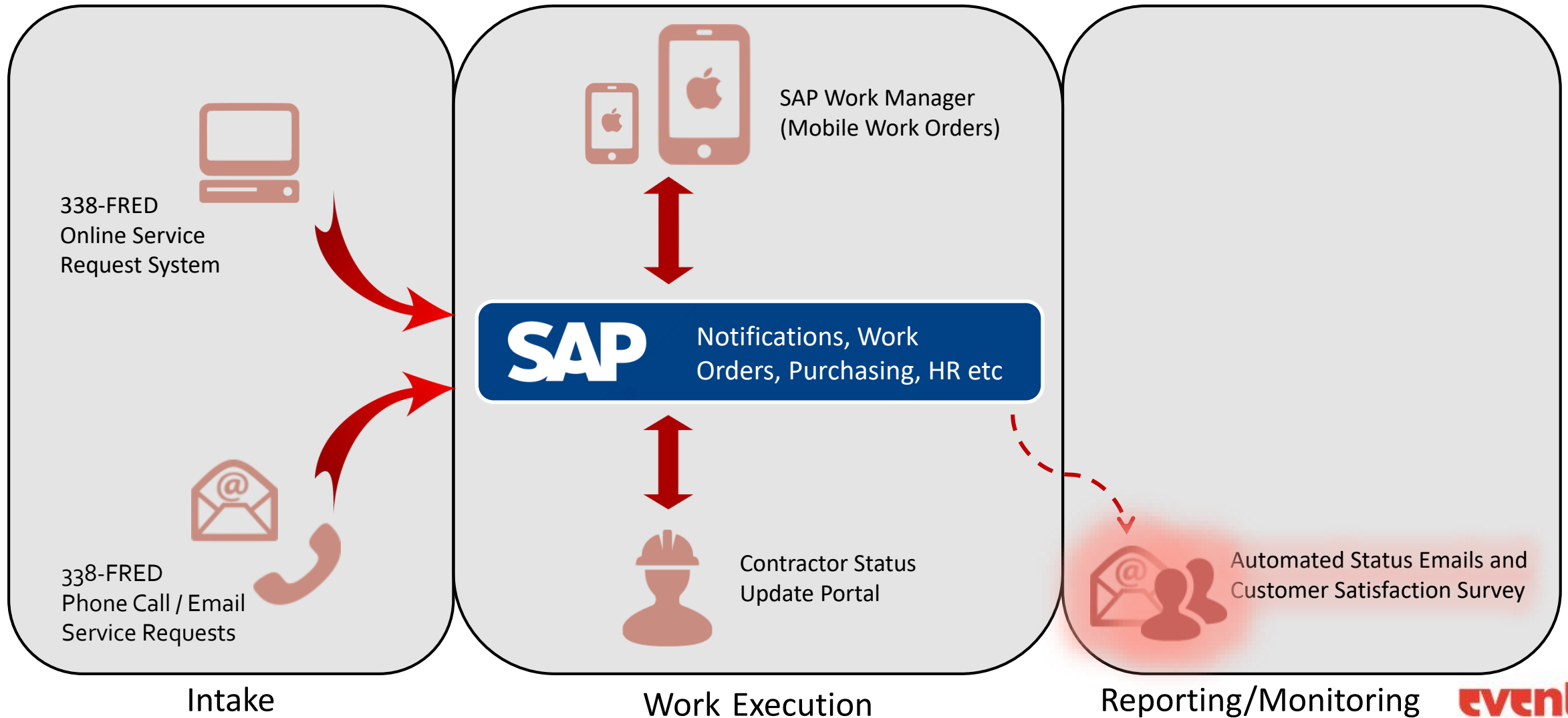


## CSU Outcomes

- ✓ Real-time work order status visibility
- ✓ Reduced administrative burden on staff
  - Saved ~200 person days per year!
- ✓ Consistent data for metrics
  - Standardized data capture whether work is internal or external
- ✓ Centralized dashboard for contractors
  - Single view - easier than tracking individual WOs / emails
- ✓ Fully paperless processes



## So what did we do?





Facilities work order #61312711 has been created - Message (HTML)

FILEMESSAGE

Delete

Reply

Reply All

Forward

Preventive Main...

To Manager

Team Email

Move

Move

Mark Unread

Categorize

Follow Up

Translate

Editing

Zoom

Zoom

Wed 10/14/2015 12:02 PM

Facilities - South FRED Building Repairs <facsouth@toronto.ca>

Facilities work order #61312711 has been created

To SAP Plant Maintenance; Richard McCracken

Order Status

Received

Created

In Progress

Completed

A Facilities Operations work order has been created for action based on your request.

Work Order Details:

Fac. Ops. District: South

Order #: 61312711

Description: Floor Drains Main Building sulphur smell

Location: CORONATION PARK YARD (TO) - PARKS YARD  
711 LAKE SHORE BLVD , M5V 1A7

Released on: October 14 2015 , 11:18:50

Web Request #: WPM0000066835



Facilities work order #61312711 has been completed - Message (HTML)

FILE MESSAGE

Ignore X Junk Delete Reply Reply All Forward More Meeting Preventive Main... To Manager Team Email Rules OneNote Actions Move Follow Up Mark Unread Categorize Translate Zoom

Fri 10/30/2015 1:02 PM

facsouth@toronto.ca

Facilities work order #61312711 has been completed

To Richard McCracken

**Order Status**

Received Created In Progress **Completed**

Your Facilities Operations work order has been marked as completed in SAP.

**We value your feedback!**

If you believe that the work you requested is not yet complete and you need us to keep working on it, click [here](#) to let us know.

If the requested work is complete, please fill out our short multiple-choice survey to let us know how we did. It takes less than a minute to complete and will help us continuously improve our service.

**[Fill out the Survey here!](#)**

**Work Order Details:**


Fac. Ops. District:	South
Order #:	61312711
Description:	Floor Drains Main Building sulphur smell
Location:	CORONATION PARK YARD (TO) - PARKS YARD 711 LAKE SHORE BLVD, M5V 1A7
Created on:	October 14 2015 , 11:18:50
Completed on:	October 30 2015
Web Request #:	WPM0000066835



we.toronto.ca/intra/fmd/f

we.toronto.ca/intra/fmd/focssqa.nsf/signoff?openform&pm=54329876&pg=E10

Apps GaMClean Home : Toronto Pu... News Tech SAP Icons DB - free cust... Other bookmarks



## Facilities Management Client Satisfaction Survey

### Because your satisfaction matters to us.

Thank you for taking the time to fill out our client satisfaction survey.

Facilities Management strives to provide you with our best service. In order to know whether or not we're achieving that goal, we need to hear from you - our customers.

With regards to Order #54329876

*Please choose one of the following statements:*

☒ I agree that my issue has been adequately resolved and that the work order can be closed.

☐ My issue has not been adequately resolved, and I would like my work order to be re-opened.

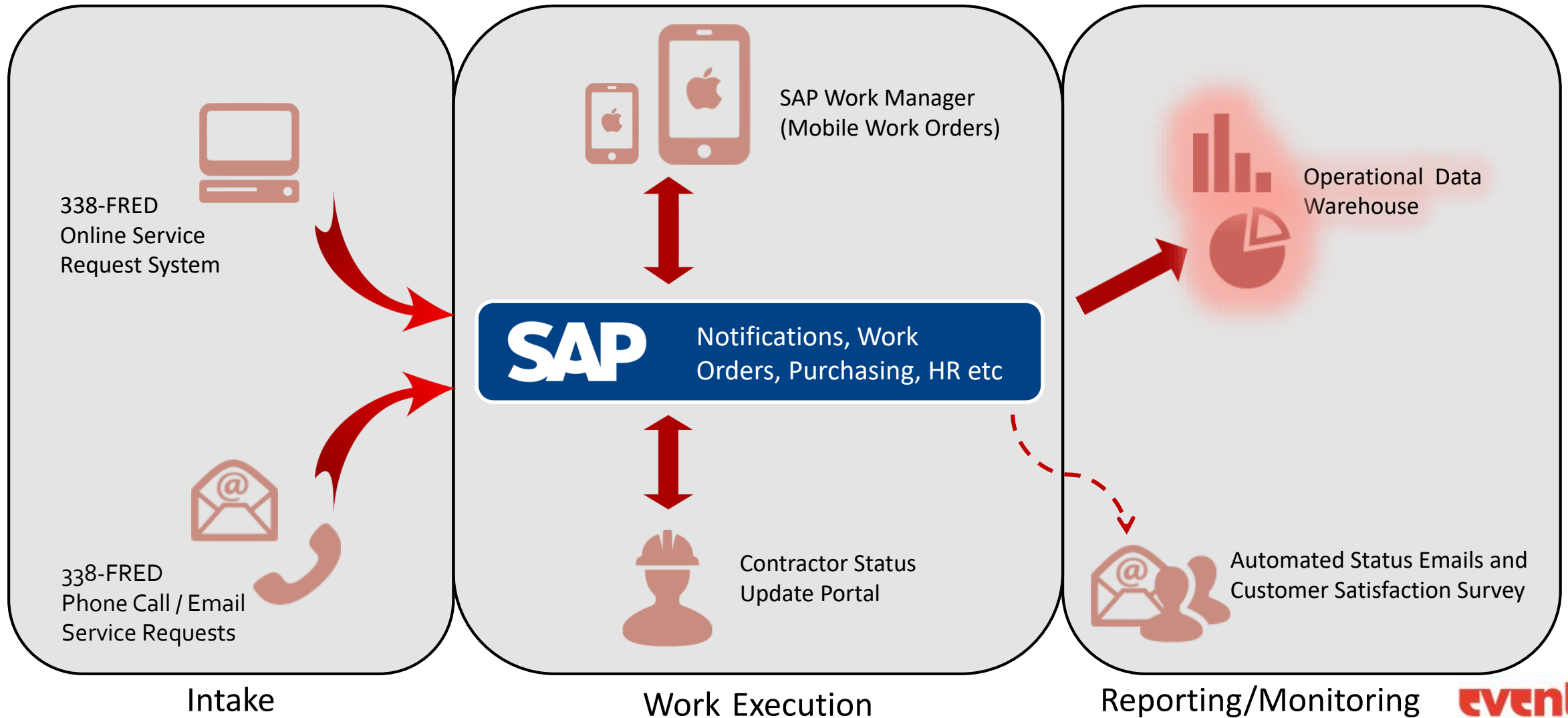
Submit

[Toronto maps](#) | [Get involved](#) | [Toronto links](#) | [311](#) | [Comment](#) | [Subscribe](#) | [Privacy statement](#)

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## So what did we do?





## **Toronto FMDW** Facilities Management Data Warehouse

Username:

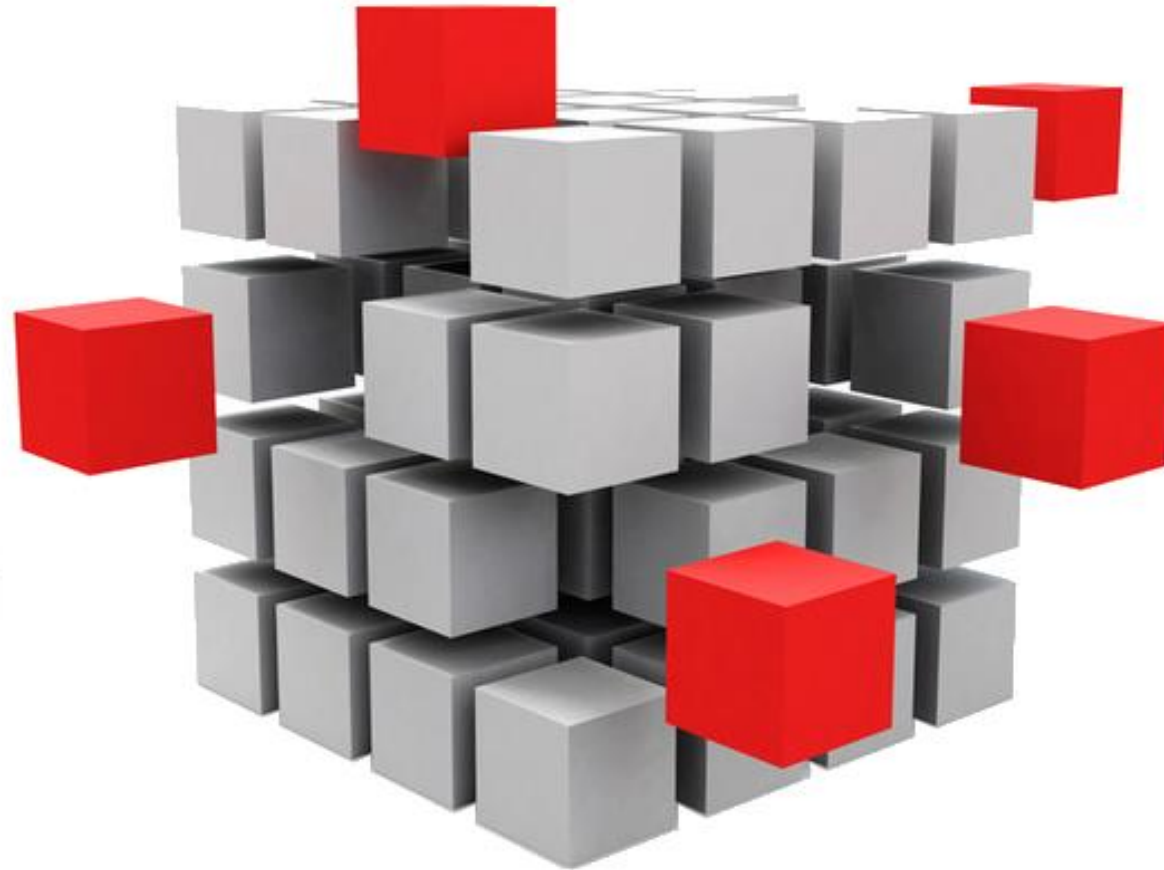
Password:

**Log in**

[Forgot your password?](#)

Having trouble signing in?  
Click [here](#) for help.

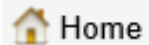
This site works best with





## **Toronto FMDW**

### Facilities Management Data Warehouse



Home



Help



Logout

• Report List

• Archive Reports

#### Admin Tools

• System Jobs

• Job Schedule

• Run Date Param

• User Tracking

• User Accounts

• SAP Account

[Home](#) → Facilities Operations



Open Work Orders



Work Order Completion



Work Requests



Contractor Status Update



Mobile Work Orders

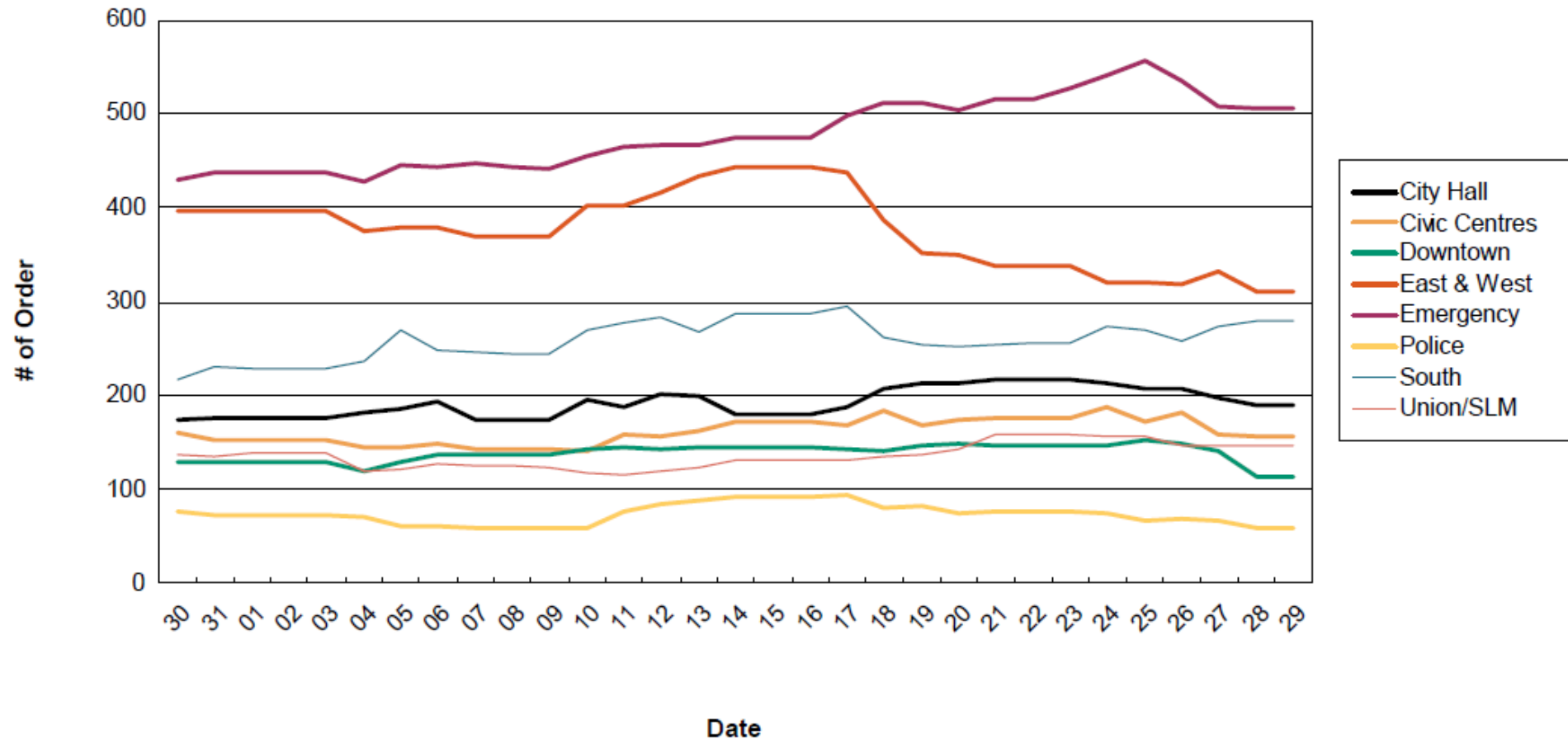


## Daily Open Work Orders: All Business Units

December 30, 2016 to January 29, 2017

Displaying Order Types

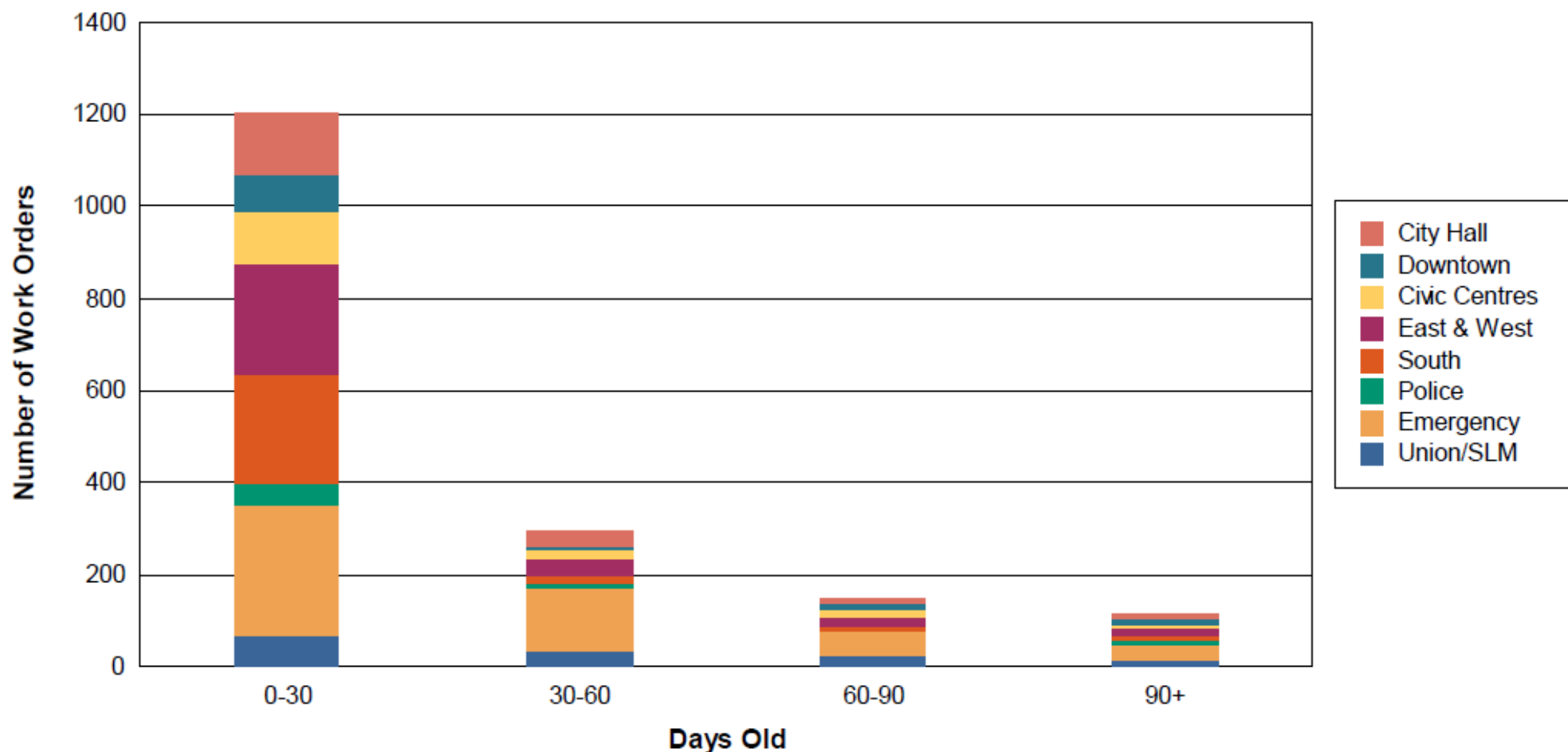
Demand (ZF05)





## Open Aged Work Orders: Facilities Operations

Displaying Order Types  
Demand (ZF05)



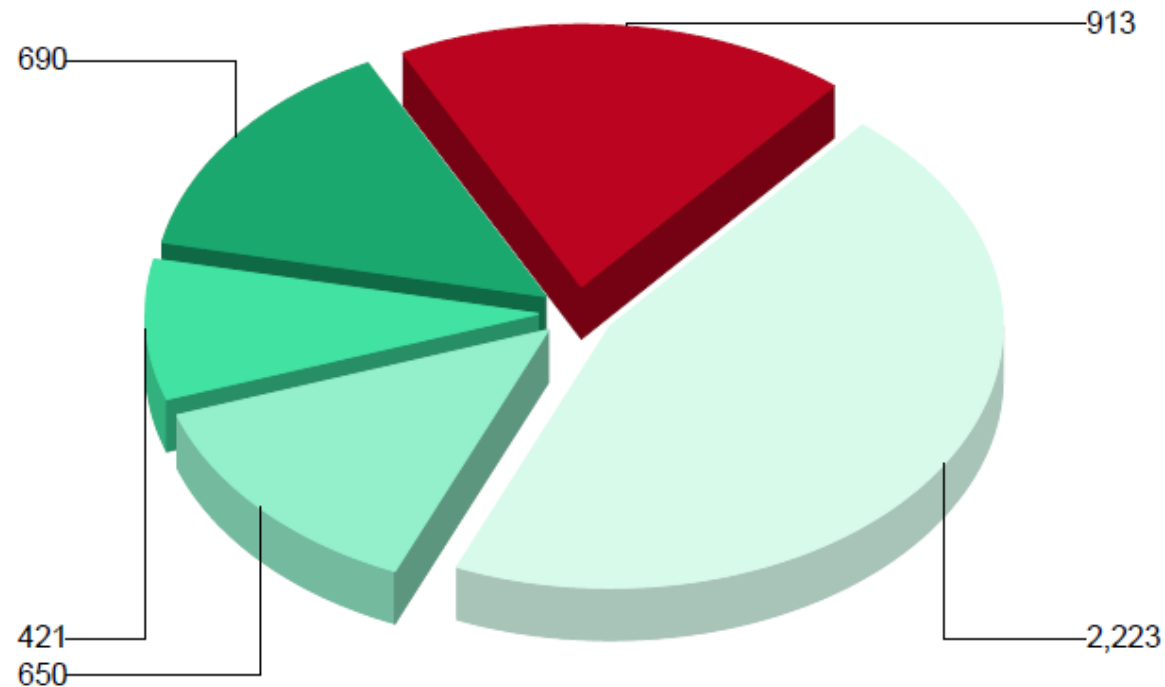


## Vendor Response Time on CSU Updating

How quickly are contractors updating CSU?  
Q4-2016

### Data Selection

District: All Business Units  
Vendor: All Vendors  
Priority Type: All Priority Types

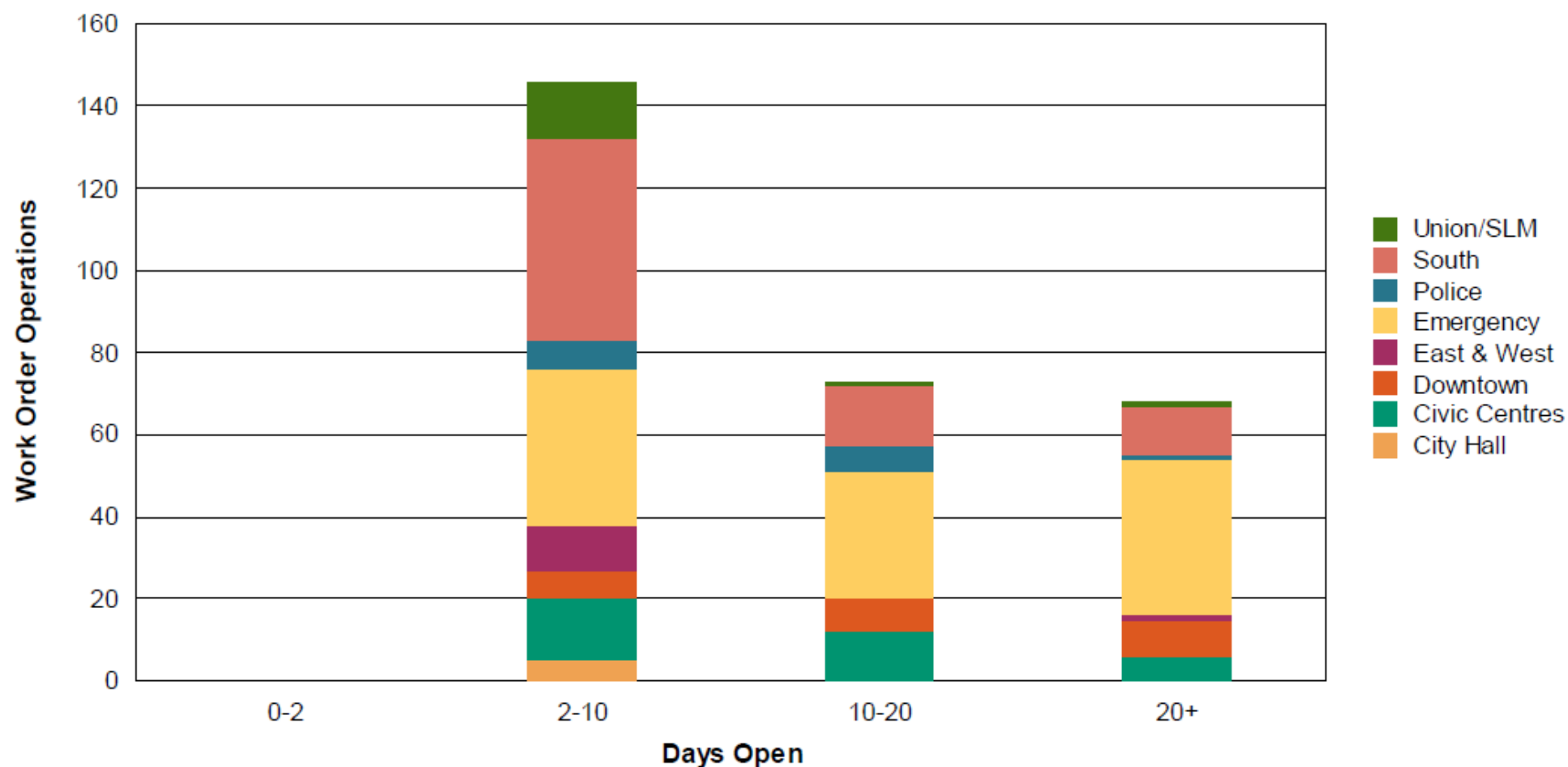




## Work Order Operations Awaiting Dispatch

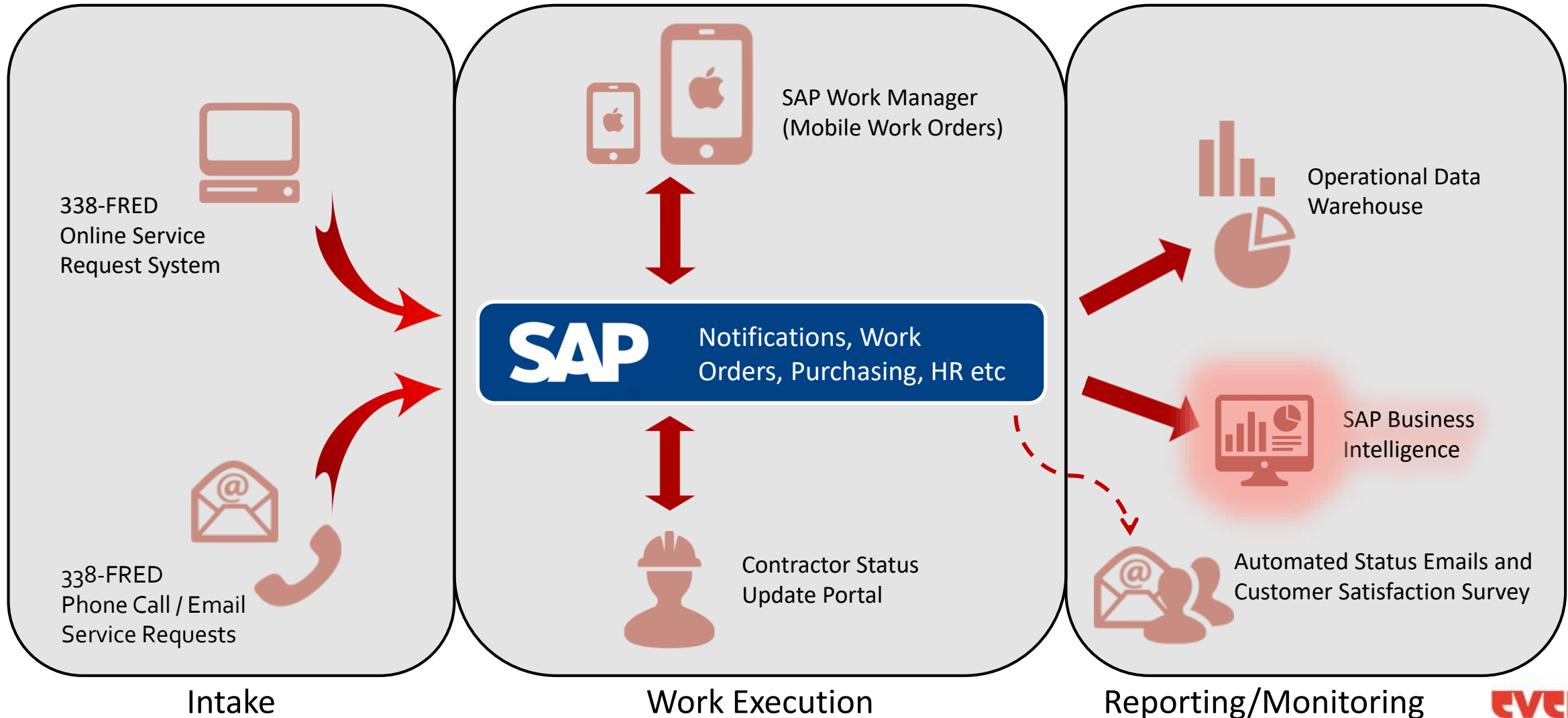
### Facilities Operations

Displaying Service Level(s)  
 L1 - Emergency  
 L2 - Urgent  
 L3 - Necessary  
 Custom Schedule





## So what did we do?





Operational

## Management Dashboards



Facilities Operations at-a-glance.  
Click on graphics to drill down.

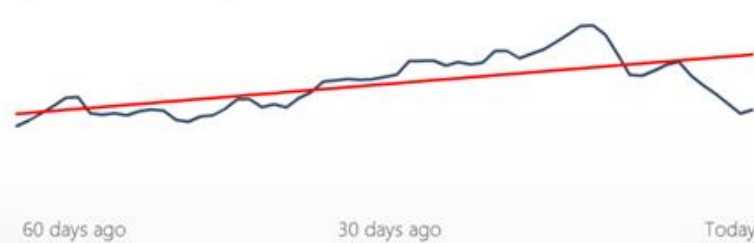
Work Order  
Response Time



Work Order  
Resolve Time



Work Orders  
Open > 30 Days



Survey Results  
Customer Satisfaction



Average  
Age of Unpaid Invoices



Average  
Invoice Payment Time



Unless otherwise specified, data shown on all graphics is for the last 30 days.



Operational

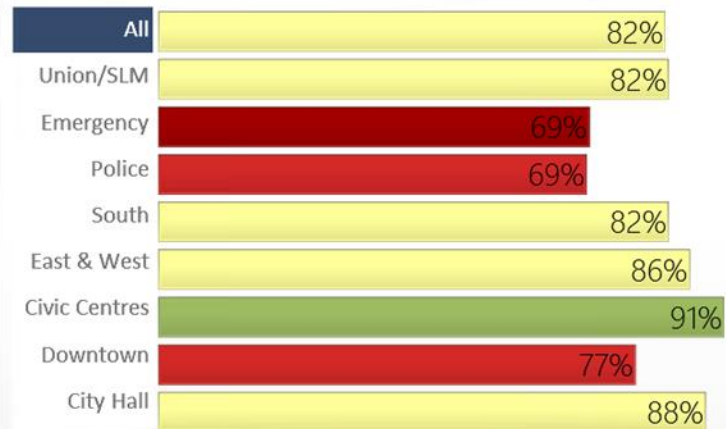
## Response Time

Choose  
Service Level 

All L1 L2 L3

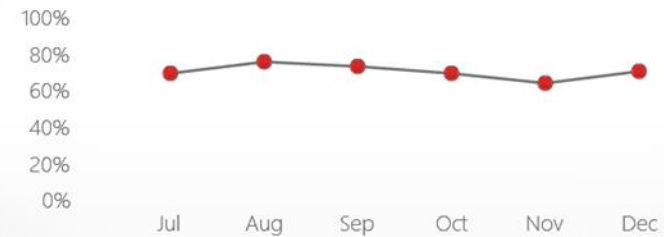
### Business Units

Last 30 Days 



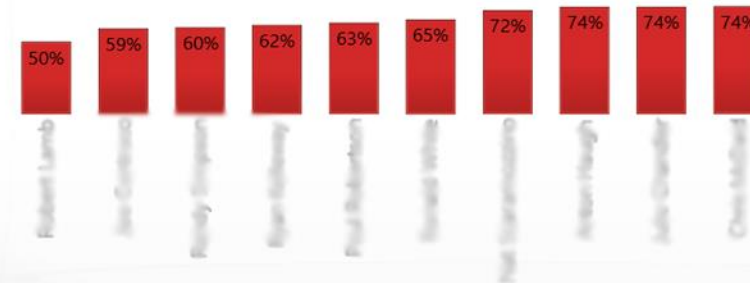
Facilities Operations at-a-glance.  
Hover your mouse cursor for more information.

### Trend All Business Units



### Supervisors All Business Units

Bottom 10 





Operational

## Management Dashboards



Facilities Operations at-a-glance.  
Click on graphics to drill down.

Work Order  
Response Time



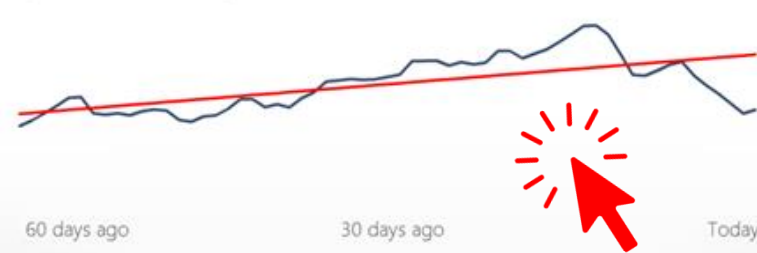
Last 30 days

Work Order  
Resolve Time



Last 90 days

Work Orders  
Open > 30 Days



60 days ago

30 days ago

Today

Survey Results  
Customer Satisfaction

96%

Target: 90%

Last 30 days

Average  
Age of Unpaid Invoices



Last 120 days

Average  
Invoice Payment Time



Last 90 days

Unless otherwise specified, data shown on all graphics is for the last 30 days.



Operational



## Open > 30 Days



Facilities Operations at-a-glance.  
Hover your mouse cursor for more information.

Choose Service Level 

All L1 L2 L3

Choose Business Unit

All

City Hall

Downtown

Civic Centres

East & West

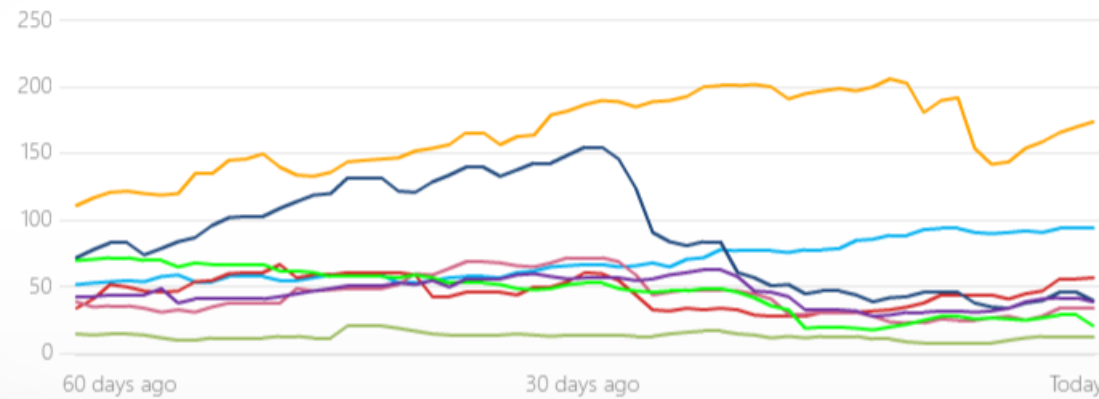
South

Police

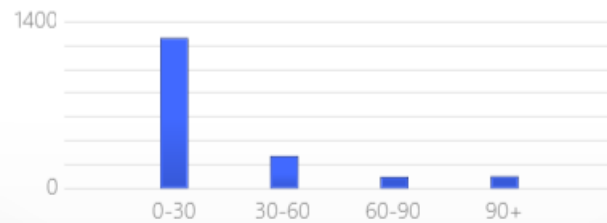
Emergency

Union/SLM

Trend All Business Units



Current Aging All Business Units





Operational

## Management Dashboards



Facilities Operations at-a-glance.  
Click on graphics to drill down.

Work Order  
Response Time



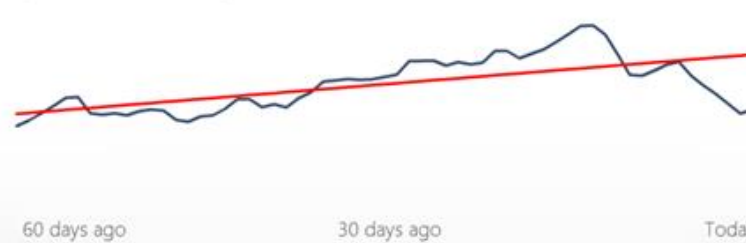
Last 30 days

Work Order  
Resolve Time



Last 90 days

Work Orders  
Open > 30 Days



60 days ago

30 days ago

Today

Survey Results  
Customer Satisfaction

96%

Target: 90%

Last 30 days

Average  
Age of Unpaid Invoices



Last 120 days

Average  
Invoice Payment Time



Last 90 days

Unless otherwise specified, data shown on all graphics is for the last 30 days.



Operational

## Toronto Invoice Payment Time



Facilities Operations at-a-glance.  
Hover your mouse cursor for more information.

Choose Invoice Type 

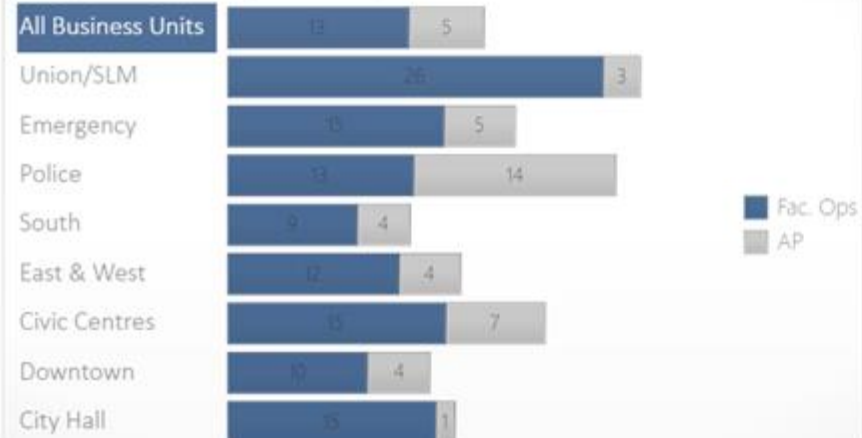
All

Discount

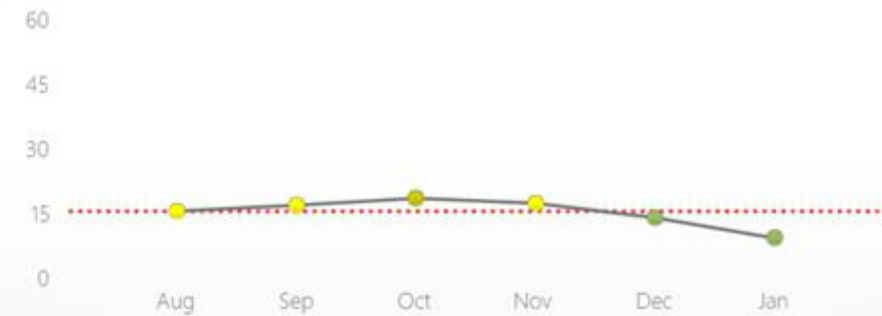
Non Discount

Avg. No of Days to Pay

Last 90 Days 



Trend All Business Units



Supervisor All Business Units

Bottom 10 

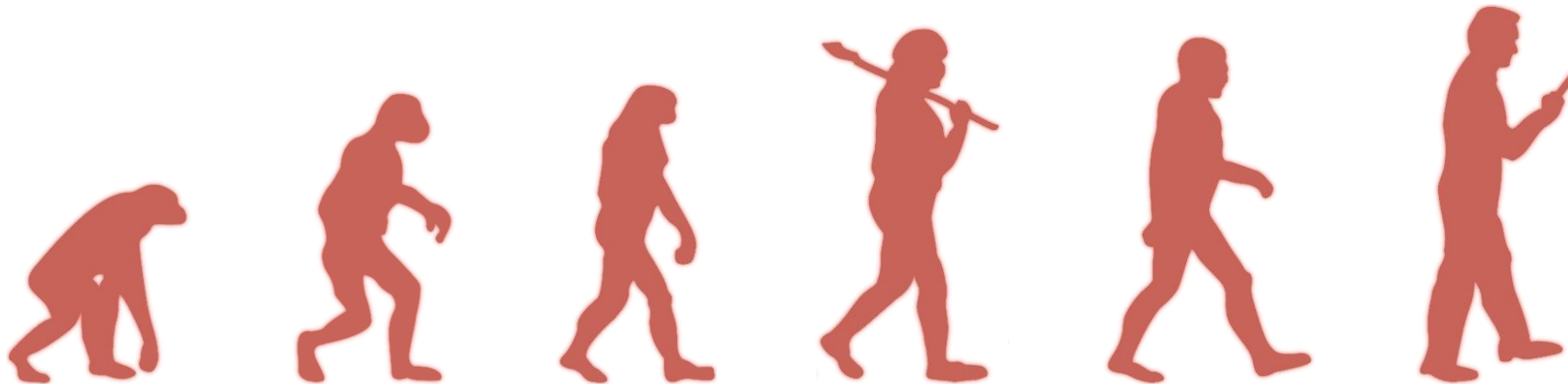




## After all this, how are we better off ?

Some savings, but process improvements are big wins

- ✓ Business processes streamlined and standardized
- ✓ Key work steps automated and made online/mobile
- ✓ Better communication with customers
- ✓ Timely data collection from all sources (internal/external)
- ✓ Improved accountability through visibility..





## What's next for us...



Preventive  
Maintenance



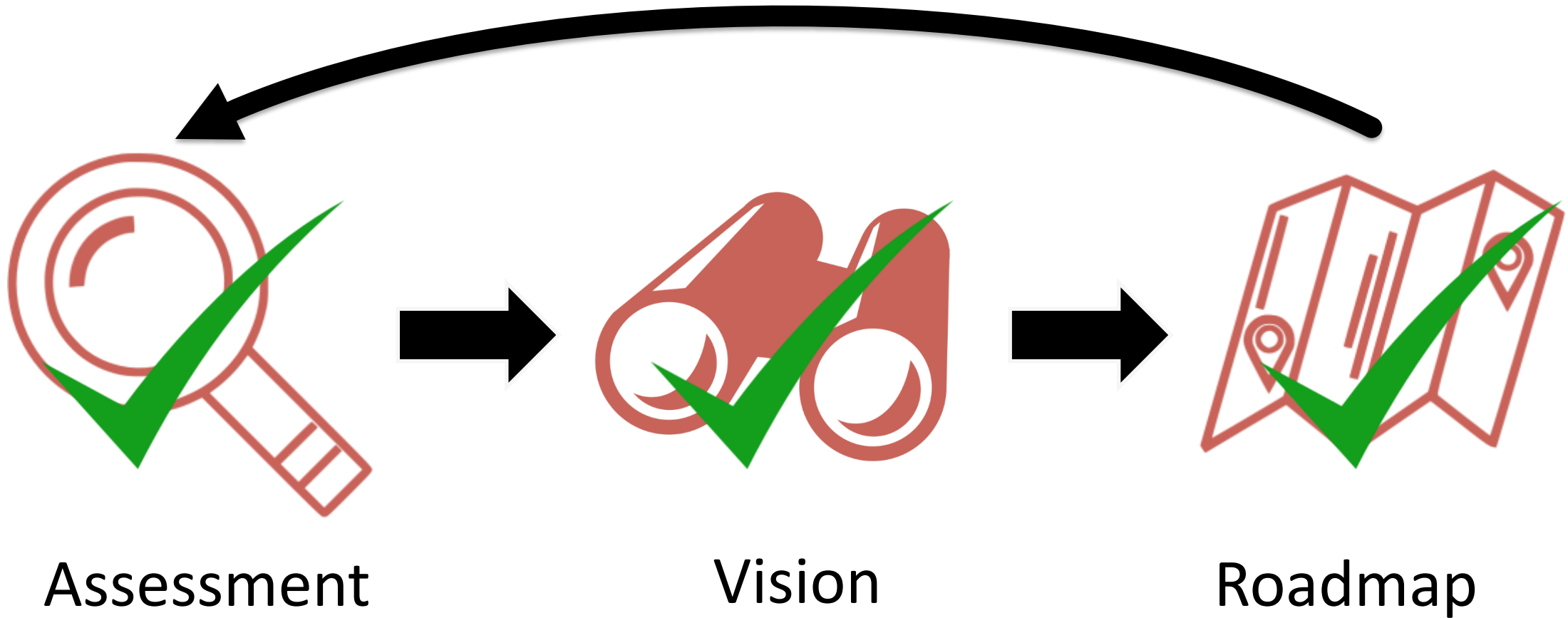
Asset Data  
Collection



Business Intelligence  
Expansion



Where do we go from here?







THANK  
YOU



# Questions





# How to connect with me

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P: +1 416-397-5259

