

BLD323807: Autodesk Facilities and BIM 360 Ops

How we Integrated Our Systems and Why

Jessica Smith

Global BIM 360 Ops Coordinator



Get Started Now!

- Scan the barcode OR
- Visit <https://ops.bim360ops.com>

(or download **BIM 360 Ops** from the App Store)

- Enter your email address and join the portfolio **AU2019**.
- Confirm your email address and enter a phone #
- You are now an occupant of this portfolio
- Add tickets with questions, comments, feedback etc.!
- Create your own portfolio and start managing your own building.



Autodesk Facilities and BIM 360 Ops

How We Integrated Our Systems and Why

This class will provide insight into how and why we took our everyday systems and made them talk to BIM 360 Ops software. Building owners will gain an understanding of what systems worked well, what didn't, and what we hear from our users that drives our decisions.

Scan me!





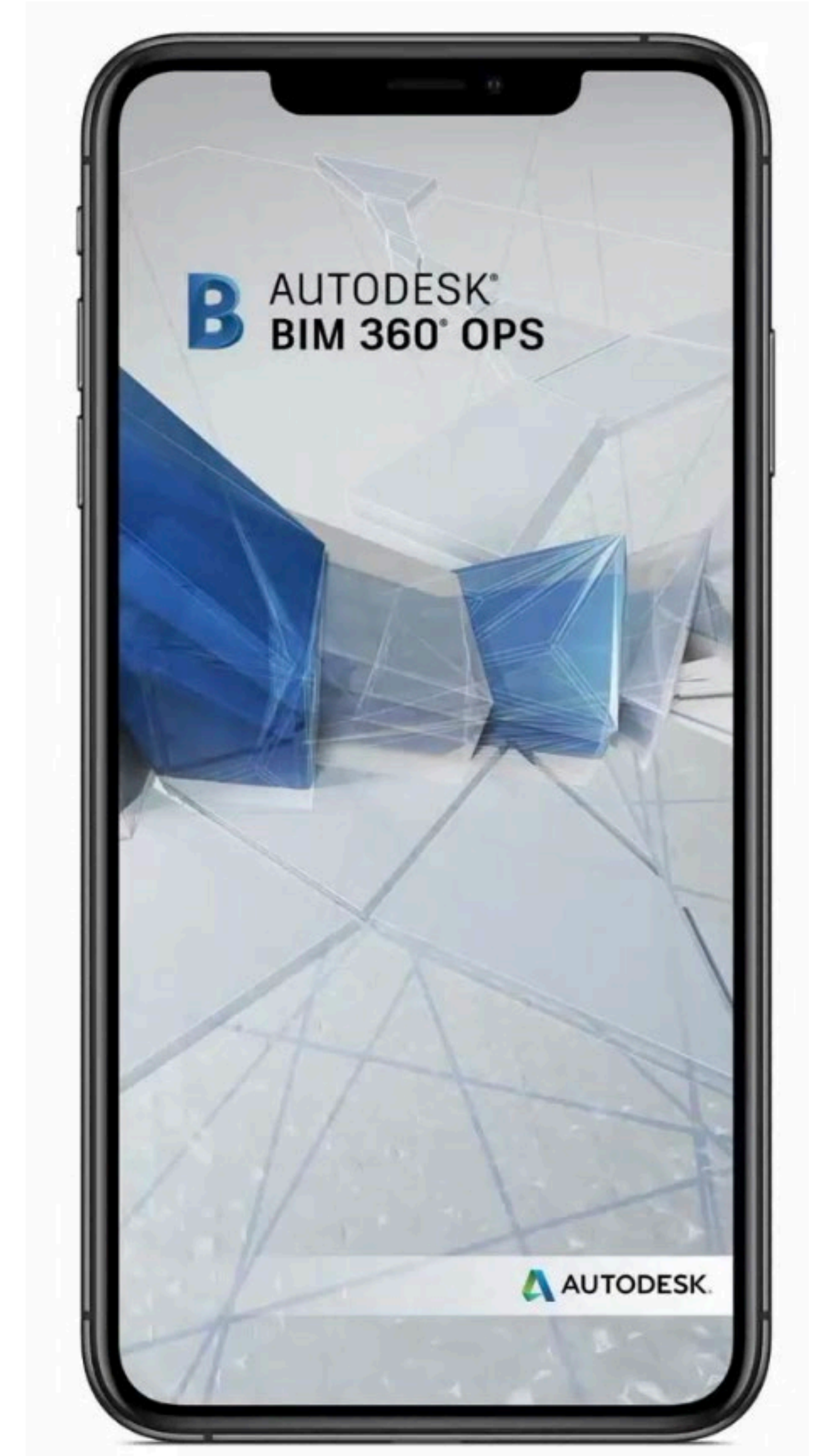
About Me!

I'm Jess

And I'm the Global BIM 360 Ops Coordinator for Autodesk based out of Boston, MA. While my role is multifaceted, my primary responsibility is providing technical support to Autodesk users using BIM 360 Ops and maintaining the Autodesk BIM 360 Ops portfolio.

What is Autodesk BIM 360 Ops?

- **Easy to use, mobile-first** maintenance management solution with web and mobile clients
- For maintenance managers, **technicians**, and building occupants
- Connects **BIM asset data** to the people who need it most, when they need it, where they need it
- Creates actionable tickets from **building sensors**
- Provides **indoor maps** to locate tickets and assets, do wayfinding for technicians, and enable more effective ticket triaging and analysis



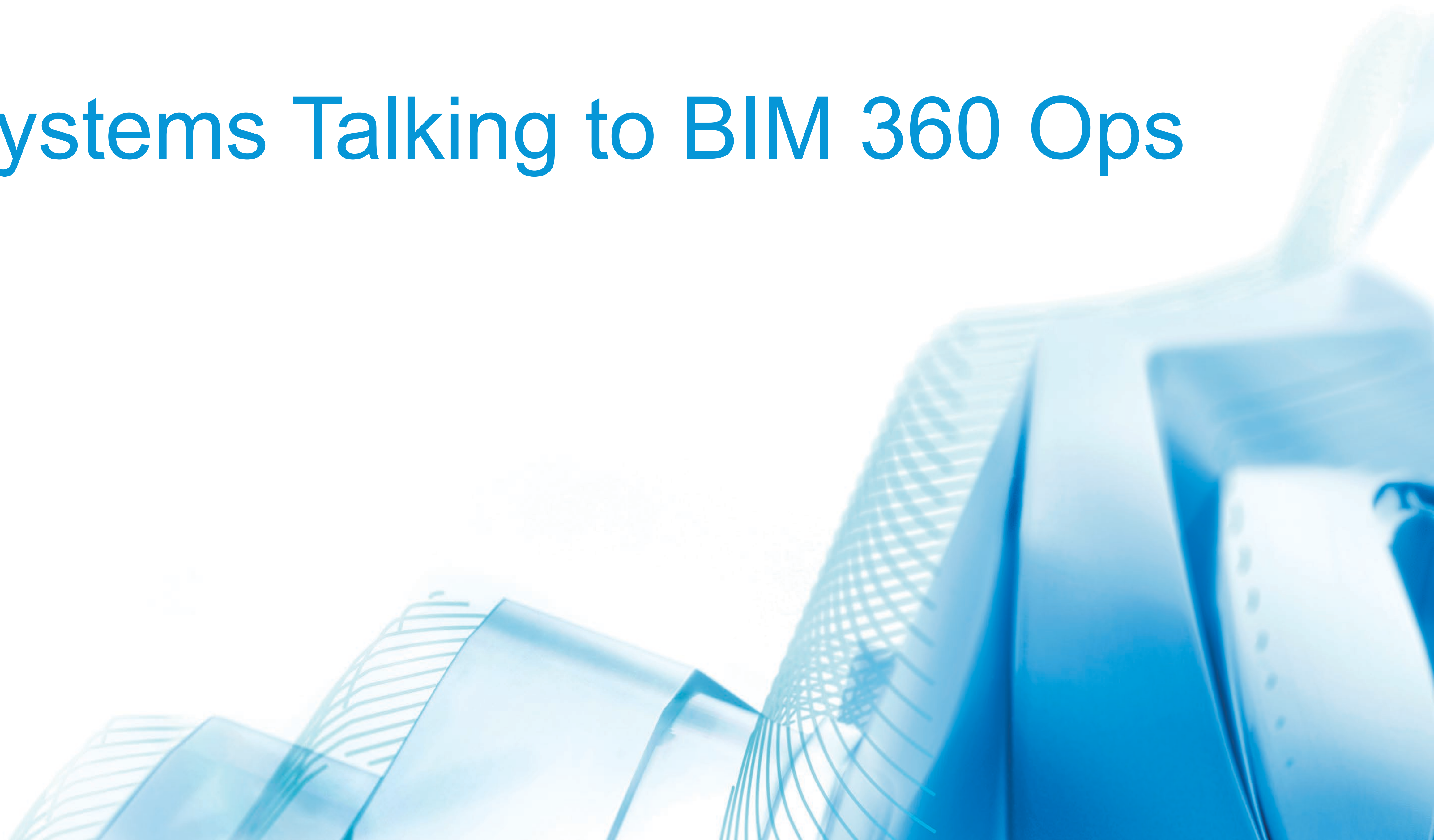
What Are the Benefits of BIM 360 Ops?

- **Enables owners to begin operations on day one** with a turnkey maintenance and asset management solution
- **Helps owners realize the operating potential of their buildings** and reduce expenses from unmaintained equipment
- **Offers a simple and elegant mobile and responsive web interface** that meets the needs of the mobile maintenance workforce
- **Improves the facility team efficiency by delivering indoor maps** that make ticket and asset data immediately actionable and contextually relevant

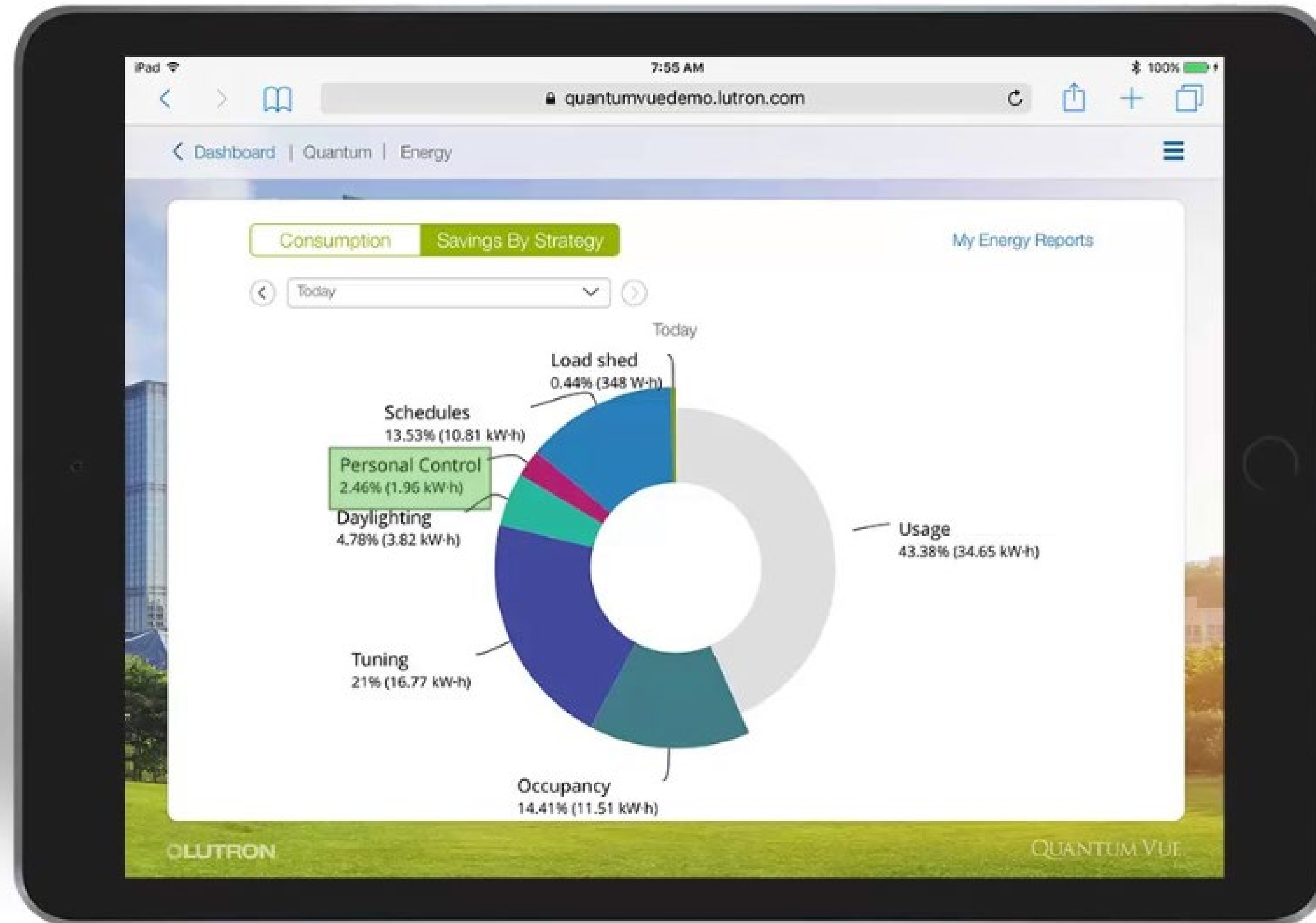
BIM 360 Ops Classes at AU 2019

Session ID	Title	Day and Time
BLD322234	Getting Started with BIM 360 Ops	Tuesday 1:30
BLD322245	Indoor Mapping for Facility Operations	Tuesday 2:45
BLD322176	Revit to BIM 360 Ops—Exporting Asset and Location Data for Facilities Management	Tuesday 4:30
BLD323807	Autodesk Facilities and BIM 360 Ops: How We Integrated Our Systems and Why	Wednesday 8:00
BLD322056	Maintaining Models with Value: What OSU Learned Moving to BIM	Wednesday 9:15
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BLD322830	How to Write an Awesome Facilities Management Data Specification	Thursday 2:45

Systems Talking to BIM 360 Ops

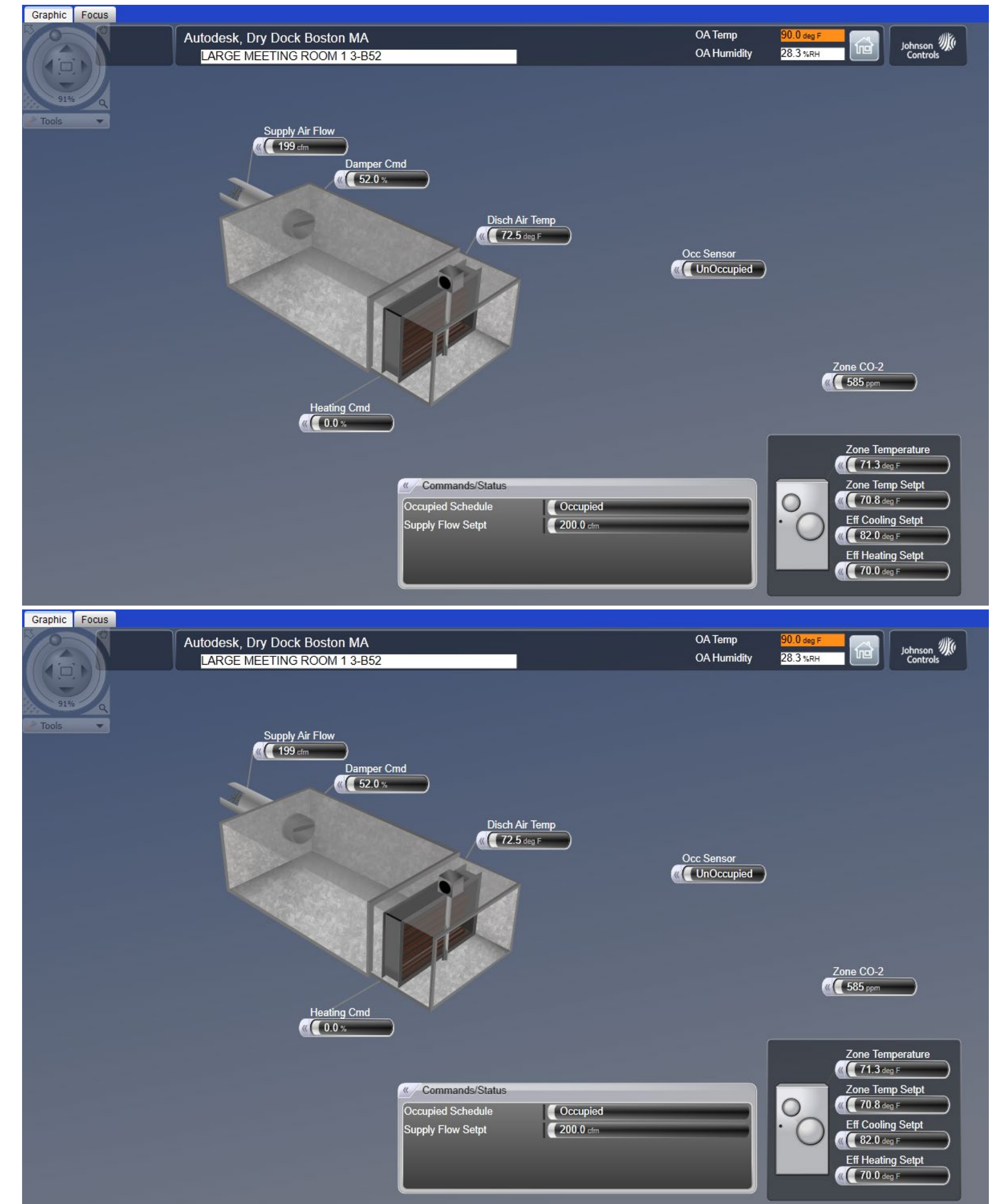


Lutron



Metasys

- Chose only critical heat pumps and alarms
 - Pumps that serve critical rooms
- Alerts the whole team of the issue → faster response time
- Blog post
<https://bim360ops.autodesk.com/blog/how-to-send-metasys-email-alarms-to-bim-360-ops>



111 McInnis VAV Summaries

3900 Civic Modes PIER-9 PIER-9 Complete

111 McInnis Power Trends AHU Summary 111 McInnis

Test steve 1 McInnis JACE VAVs

Waltham FPB & VAV Josh Test Graphics Schedules

All Items Overviews CRAC UNITS

ussclpecradx001

User Views

Summary Definitions

ussclpecradx001

AD-111MAC-NAE-1

AD-111MAC-NAE-2

AD-111MAC-NAE-3

3900CIVIC-NAE-1

3900CIVIC-NCE-2

AD-PIER9-NAE-1

USBOS6FNAE001

BACnet Protocol Eng

Eth IP DataLink

Energy

Programming

Schedule

FC-1

USBOS6FNAE002

USBOS3FNAE003

BACnet Protocol Eng

Eth IP DataLink

Energy

Programming

FC-1

RFH-CP

AC1-CP

AC2-CP

VAV-1C-1

VAV-2A-10

VAV-2A-20

VAV-1B-21

VAV-1A-13

VAV-2A-6

VAV-2A-19

VAV-2A-15

VAV-2A-9

VAV-2A-5

VAV-2A-8

VAV-2A-7

VAV-5A-2

VAV-5A-3

VAV-5A-18

HP-26-27-28

Graphic Focus

AutoDesk, Dry Dock Boston MA

B300_AD06001_HP26

HP-26

Ret Air Temp

72.2 deg F

RA

Sup Fan

Cmd On

Status On

Alarm Off

DA

Comp Stg 1

On

HP-27

Ret Air Temp

78.0 deg F

RA

VAV-2A-3.ZN-T

72.5 deg F Normal

Focus Hardware Alarm

Select Item(s):

VAV-2A-3.ZN-T.Alarm - Present Value

New

Delete

Edit

Basic Advanced

Attribute	Value
Reference	
Name	VAV-2A-3.ZN-T.Alarm - Present Value
Description	
Object Type	Analog Alarm
Present Value	Normal
Input	72.5 deg F
Alarm State	
Event Enable	True
Report Delay Active	False
Report Delay	10 seconds
Status	
Enabled	True
Reliability	Reliable
Time	Unspecified

VAV-2A-7

Online Normal

Summary Focus Hardware Diagnostic

Status	Item	Value	Description
	OCC-S	UnOccupied	CS Input (Enum)
	VAV-2A-3.ZNT-SP	74.0 deg F	Zone Setpoint
	VAV-2A-3.OCC-SCHEDULE	Occupied	Occupancy Schedule
	VAV-2A-3.ZN-T	72.5 deg F	Zone Temperature
	VAV-2A-3.DA-VP	0.33 in wc	Discharge Air Velocity Pressure
	VAV-2A-3.SA-F	200 cfm	Supply Airflow Rate
	VAV-2A-3.DPR-O	50.2 %	Supply Air Damper Output
	VAV-2A-3.EFF-OCC	UnOccupied	Effective Occupancy
	VAV-2A-3.EFFHTG-SP	61.0 deg F	Effective Heating Setpoint
	VAV-2A-3.EFFCLG-SP	82.0 deg F	Effective Cooling Setpoint
	VAV-2A-3.SAFLOW-SP	200.0 cfm	Supply Flow Setpoint
	VAV-2A-3.HTGOCC-SP	70.0 deg F	Occupied Heating Setpoint
	VAV-2A-3.CLGOCC-SP	74.0 deg F	Occpied Cooling Setpoint
	VAV-2A-3.HTGUNOCC-SP	61.0 deg F	Unoccupied Heating Setpoint
	VAV-2A-3.CLGUNOCC-SP	82.0 deg F	Unoccipied Cooling Setpoint
	VAV-2A-3.CLG-MAXFLOW	210.0 cfm	Cooling Max Flow
	VAV-2A-3.HTGOCC-MINFLOW	65.0 cfm	Occpied Heating Min Flow
	VAV-2A-3.CLGOCC-MINFLOW	65.0 cfm	Occpied Cooling Min Flow
	VAV-2A-3.WC-C	Normal	Warmup and Cooldown Command
	VAV-2A-3.OCC-MODE	UnOccupied	Occupancy Status Display
	VAV-2A-3.SA-T	56.2 deg F	Supply Air Temperature
	VAV-2A-3.CLGUNOCC-MINFL...	200.0 cfm	Unocc Cooling Min Flow
	VAV-2A-3.HTGUNOCC-MINFL...	200.0 cfm	Unocc Heating Min Flow
	VAV-2A-3.AUTOCAL-C	False	Auto Calibrate Command

VAV-2A-3 ZN-T

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USBOS6FNAE001

BACnet Protocol Eng

Eth IP DataLink

Energy

Programming

Schedule

FC-1

USBOS6FNAE002

USBOS3FNAE003

BACnet Protocol Eng

Eth IP DataLink

Energy

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RFH-CP

AC1-CP

AC2-CP

VAV-1C-1

VAV-2A-10

VAV-2A-20

VAV-1B-21

VAV-1A-13

VAV-2A-6

VAV-2A-19

VAV-2A-15

VAV-2A-9

VAV-2A-5

VAV-2A-8

VAV-2A-7

VAV-5A-2

VAV-5A-3

VAV-5A-18

ussclpecradx001

Focus Summary Diagnostic Email Pager SNMP Syslog Printer

Save Cancel

Attribute	Value	Units
Shared Configuration		
SMTP Server Host	email.autodesk.com	
SMTP Port	25	
Authentication Type	None	
SMTP User Name		
SMTP Password	*****	
POP Server Hostname		
POP User name		

Destinations

San Rafael

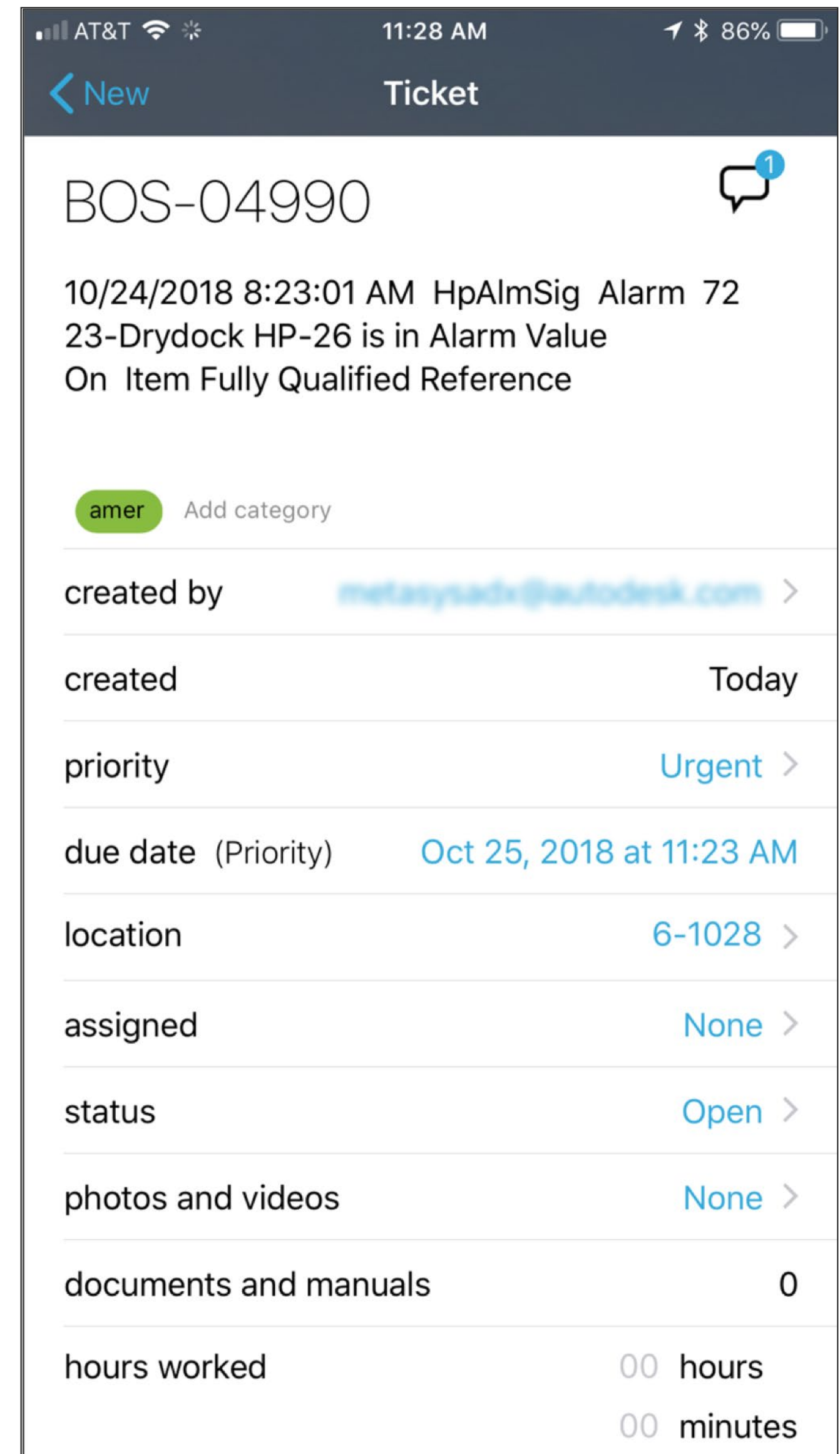
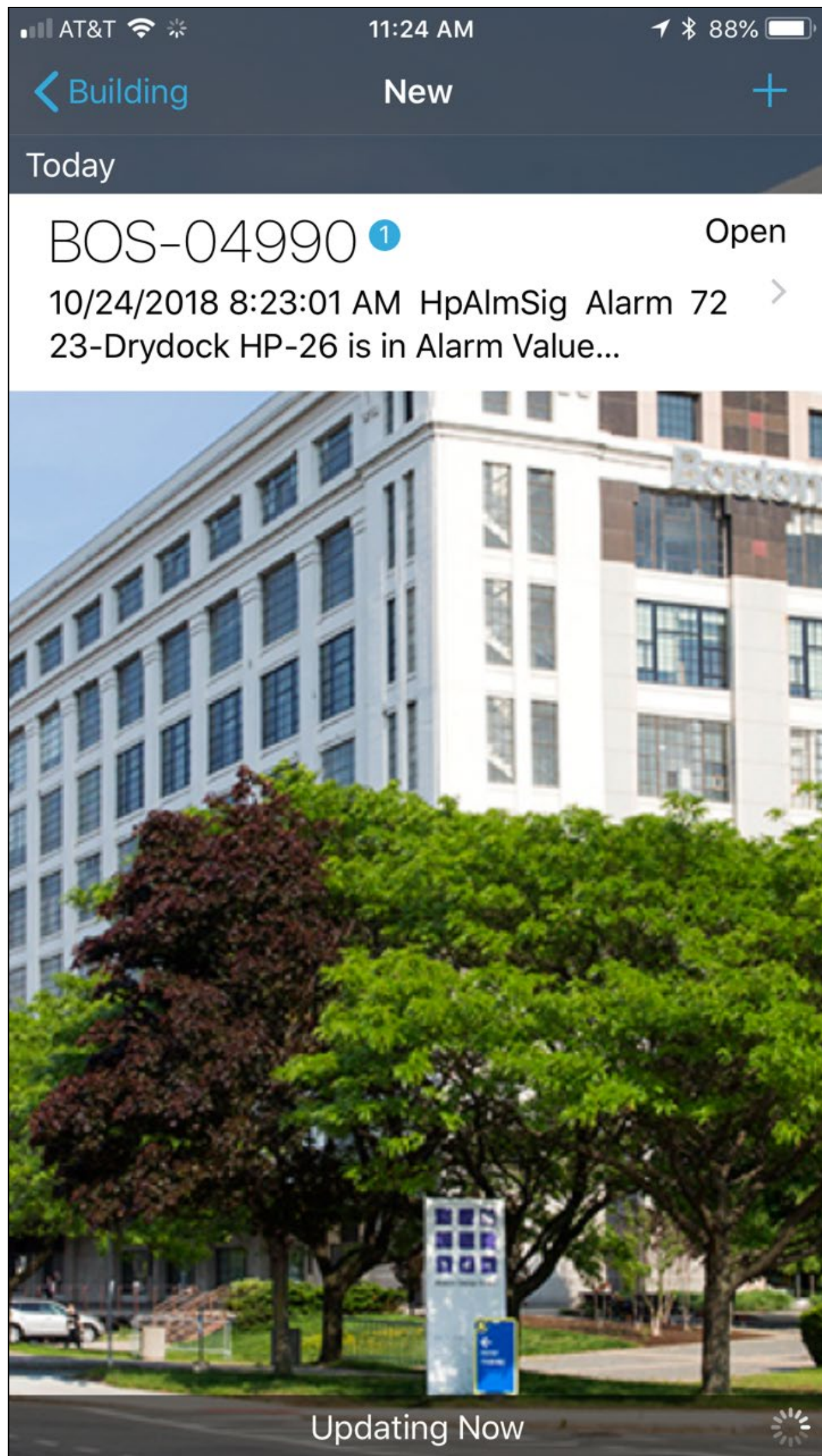
111 Boiler Alarm

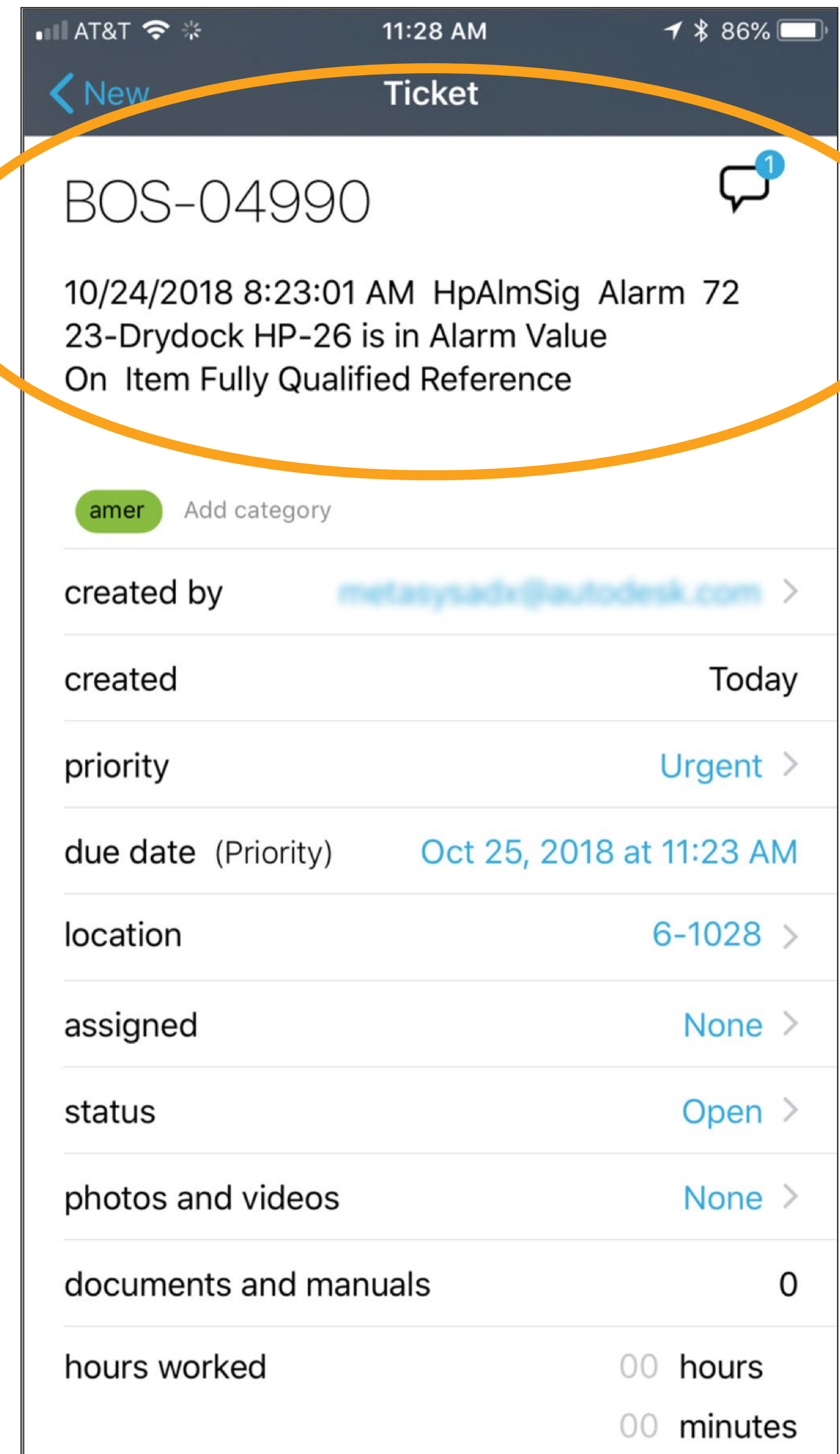
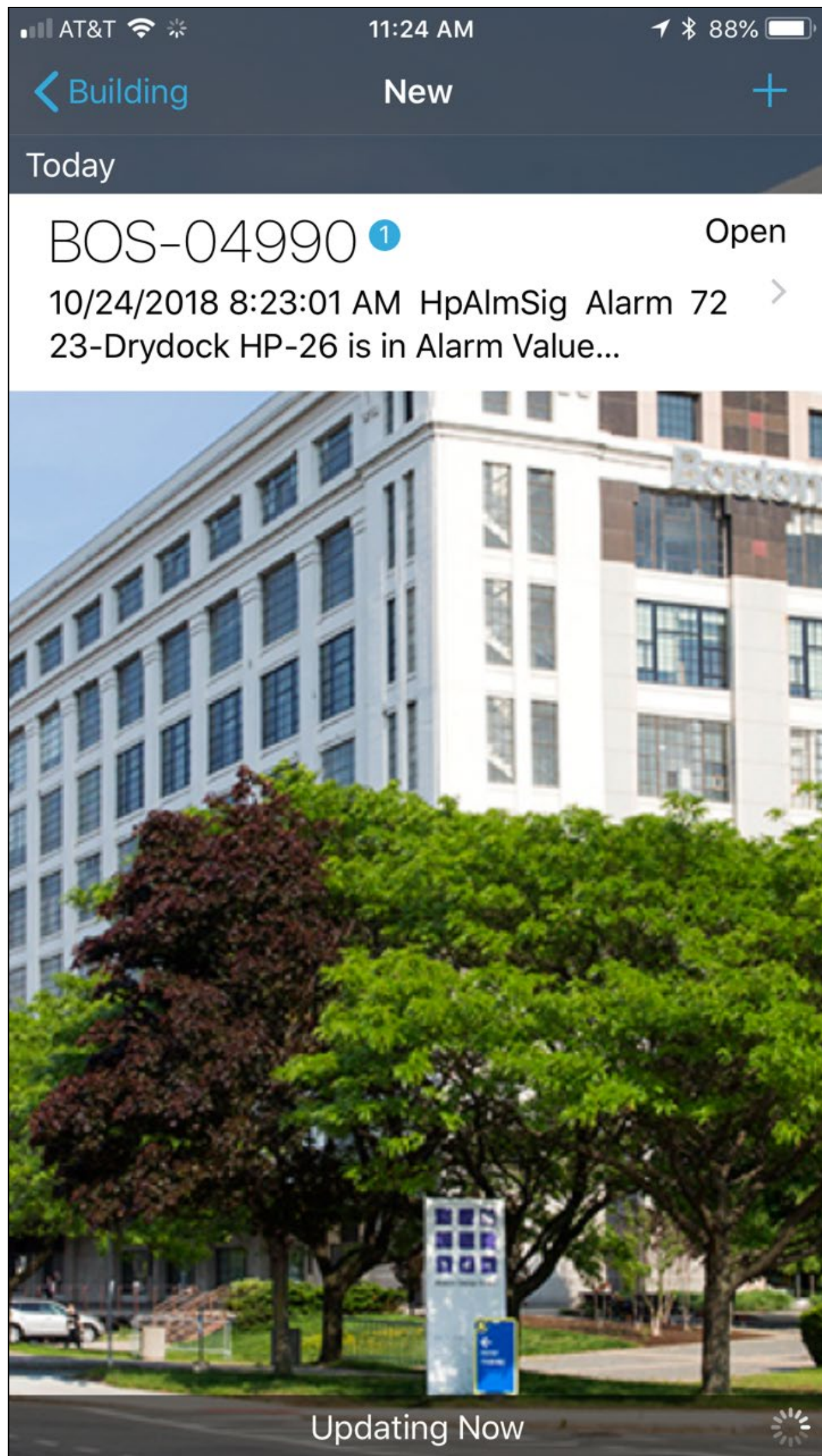
Boston MDF HP Alarms

Boston General Alarm

Attribute	Value	Units						
Destination Configuration								
Label	Boston General Alarm							
Email Address								
Priority	Normal							
Subject								
Retries	3							
Enabled	True							
Event Filters	<table><thead><tr><th>Item</th><th>Operator</th><th>Value</th></tr></thead><tbody><tr><td>Priority</td><td>==</td><td>99</td></tr></tbody></table>	Item	Operator	Value	Priority	==	99	
Item	Operator	Value						
Priority	==	99						
Format	<div><input checked="" type="checkbox"/> Priority</div> <div><input checked="" type="checkbox"/> Message</div> <div><input checked="" type="checkbox"/> Value</div> <div><input type="checkbox"/> Site Name</div> <div><input checked="" type="checkbox"/> Item Description</div> <div><input checked="" type="checkbox"/> Item Fully Qualified Reference</div> <div><input checked="" type="checkbox"/> Item Category</div> <div><input type="checkbox"/> Acknowledge Required</div> <div><input type="checkbox"/> Previous Status</div>							

bos.amma07@autodesk.ops.fm





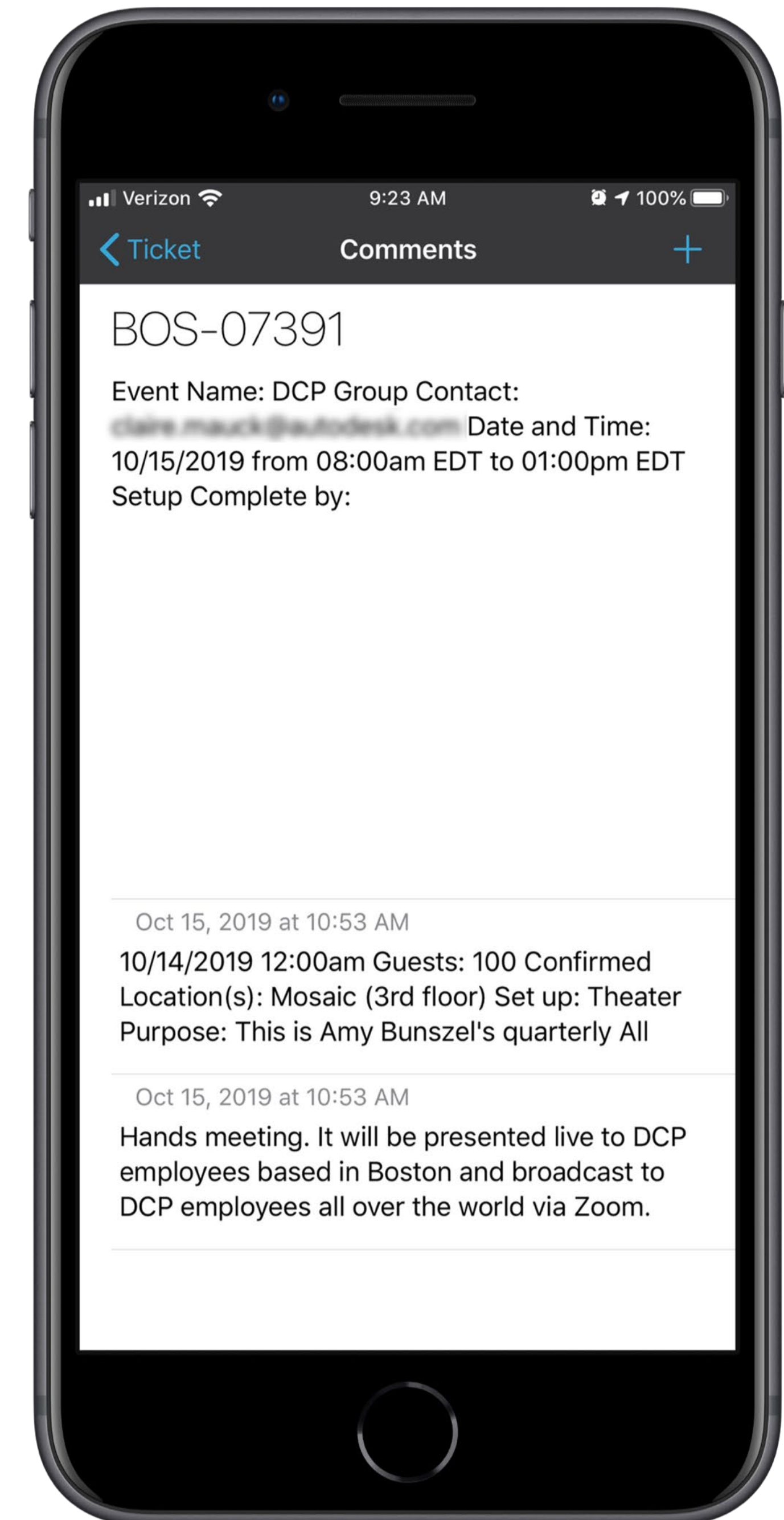
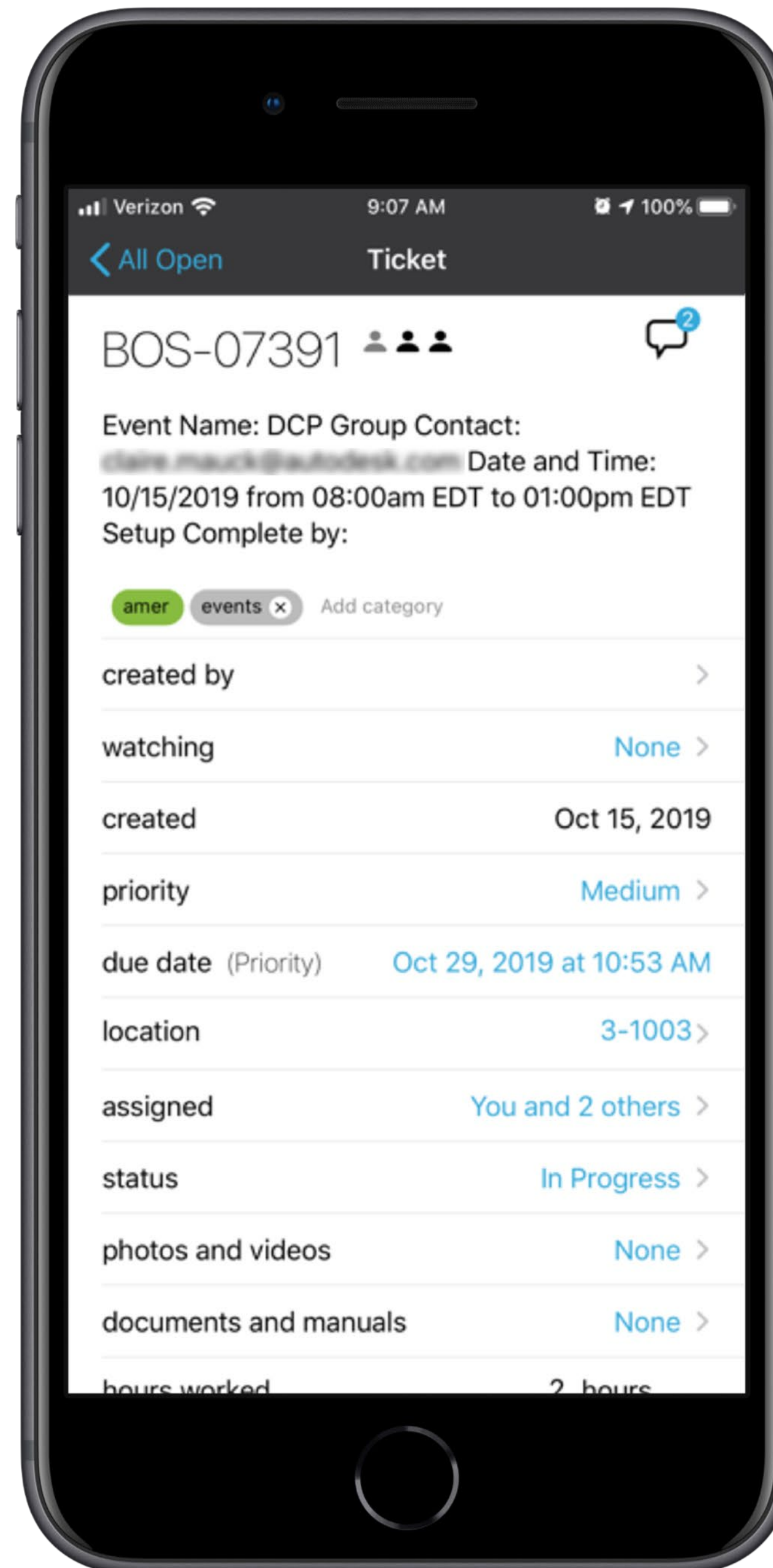
Briefing Source

- Briefing Source is used for managing meetings, events, and customer briefings
- Provides custom forms that populate a calendar view
- Used daily by Events and Customer Briefings support staff
- When an event is submitted
 - A confirmation email is sent to the requester
 - The same confirmation email is sent to BIM 360 Ops and creates an event ticket for the setup team

The image shows two overlapping screenshots of a web application interface. The background screenshot is a 'Send Email' form with the following fields: 'To' (with a list of email addresses), 'Import Recipients' button, 'CC' (empty), 'Email Template' (dropdown set to 'BOSTON OPS TICKET'), 'Subject' (filled with 'Event: LUMA 3000 Celebration'), 'From Name' (filled with 'Facilities'), 'Location' (filled with '#room_id#'), 'Attachments' (button 'Choose File' and text 'No file chosen'), and 'Message' (with a rich text editor toolbar). A warning message states: 'Warning: Calendar invitations are sent individually, so CC recipients will receive a copy for every recipient.' The foreground screenshot is a preview of the email body, showing event details: 'Event Name: LUMA 3000 Celebration', 'Group Contact: [redacted]', 'Date and Time: 10/17/2019 from 12:00pm EDT to 01:30pm EDT', 'Setup Complete by: 10/17/2019 10:00am', 'Guests: 40', 'Confirmed Location(s): Mosaic (3rd floor)', 'Set up: Reception', 'Caterer Name:', and 'Purpose: LUMA 3000 celebration. Each site is hosting a reception to celebrate 3000 employees trained in LUMA'. Below the preview is a 'Reply To' field, checkboxes for 'Bcc To Self', 'Mark As Important', and 'Send All Day Calendar Invitation' (checked), a blue note box with text: 'Please note: All Day = Meeting Start Time to Meeting End Time. Please use agenda list view to Send/Update speaker agenda invitations.', and 'Send Email' and 'Cancel' buttons.

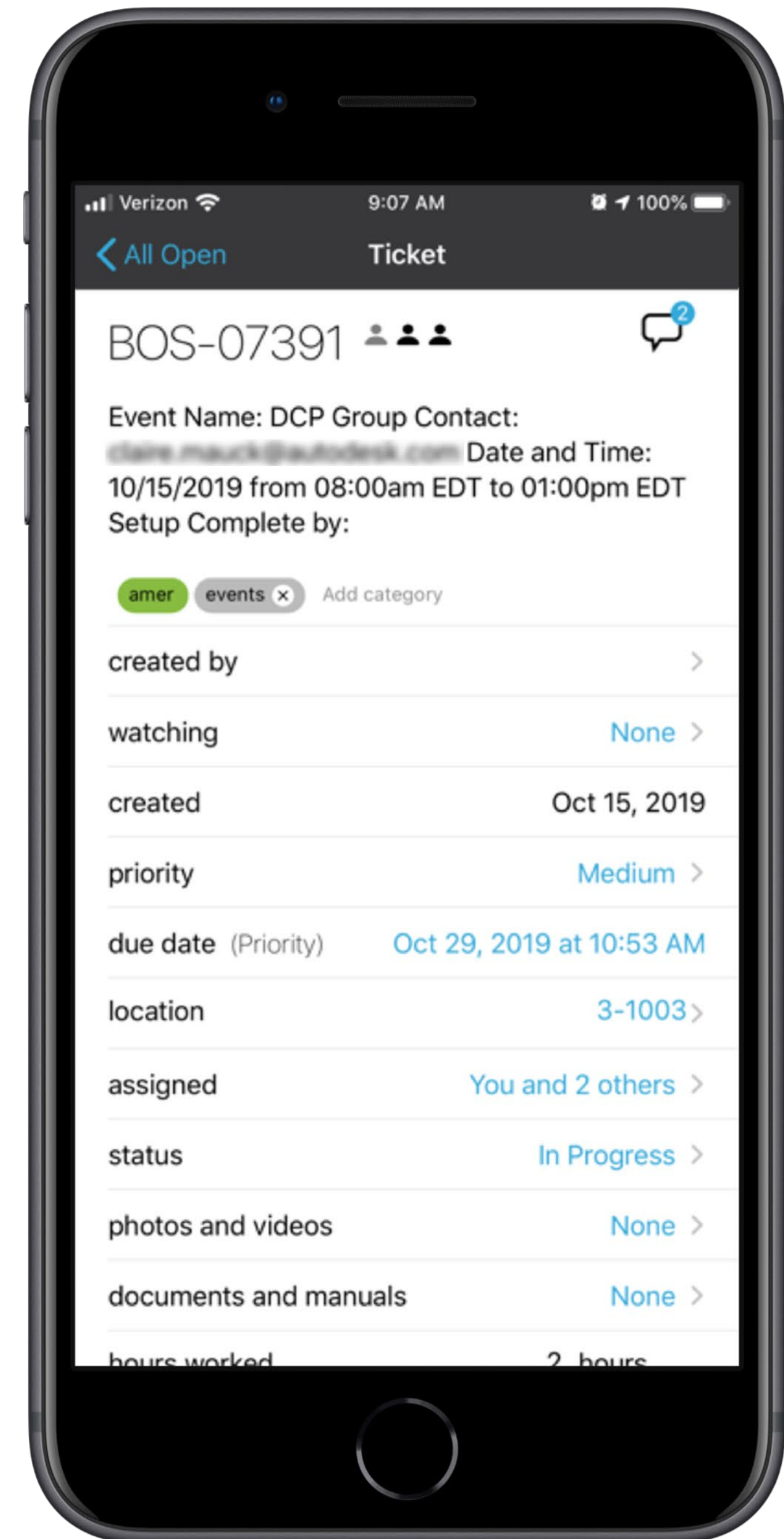
Briefing Source

- Instead of filling in the ticket with all the information we only need to fill in:
 - Category
 - Location
 - Assigned
 - Hours Worked
- Check the comments to see a full description of the event



Briefing Source - Time Saved

- As of last week Autodesk had 4380 events tickets YTD
 - Boston alone has 386 Events Tickets
 - Originally: at minimum 5 mins to enter a ticket
Now: at most 1 min from the time the email is triggered to triaging in Ops
- 4 x 386 = **1,544 mins or 25.74 Hours for one location**
- Likely hood of miss spelling or miss entering of information goes down → more accurate information for Technician working on the ticket
 - Guaranteed that all the necessary information about the event/meeting is in the ticket
 - Reduces process delay in getting the information to facilities



Eversys Machine



- Provides the fuel that keeps Autodesk employees running (they would highly recommend it)
- Boston:
 - Has 3 machines, 1 services Customer Briefings
 - Average ~100 lbs. coffee/month, 40 gal cold brew
- Eversys has an API, but email was easier and cheaper to implement



Eversys Machine

San Rafael - 111 McInnis > Closed Tickets			List	Graph
Closed			Status	
SR2-03210		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03209		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03208		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03207		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03160		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03159		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03157		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03149		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	
SR2-03148		<table style = 'font-family: Verdana, Arial; font-size: 10pt; border-collapse: collapse; border: 1px solid #ddd; padding: 4px; color: #333;	Closed	

Eversys Machine

SRC-01545

Detected warnings and/or errors (last hour)Autodesk - 3900 Civic Center Drive, San Rafael, e'2m, SN: 1638032 (more...) 2019-08-23 10:51:

status Assigned

add category

created by

Eversys Telemetry

priority

Medium

location

None

created

Aug 23, 2019 2:02 PM

due date (Priority)

Sep 6, 2019 2:02 PM

assigned

Jessica Smith

checklist

None

associated assets

None

follow-up tickets

Add

history

View

hours worked

0 hours 0 minutes

Photos and Videos

Add Photo or Video

Documents and Manuals

Add PDF

Add web link

Comments

Add comment

Add

By Date

17 W-017 No grinder turns left Remedies and explanations W-017 No grinder turns left The grinder automatically tries to unblock itself

Aug 23, 2019

less

Bevi Machine

- Bevi Machine is used for ...
- Notifies us when something is broken or supplies are low
- Assign tickets to the vendor, they are notified via email and/or text messaged
- Why Bevi?
 - We were going through 10 gal CO2 tanks in less than 4 days
 - Went through cases of flavors in just a matter of days
 - Only just installed in September



FM:Systems

- FM:Systems is used for space management
- Just kicked off a project to replicate the rooms from FM:Systems to BIM 360 Ops every night
- Using the BIM 360 Ops Rooms API
- One-directional sync

Systems Are We Considering



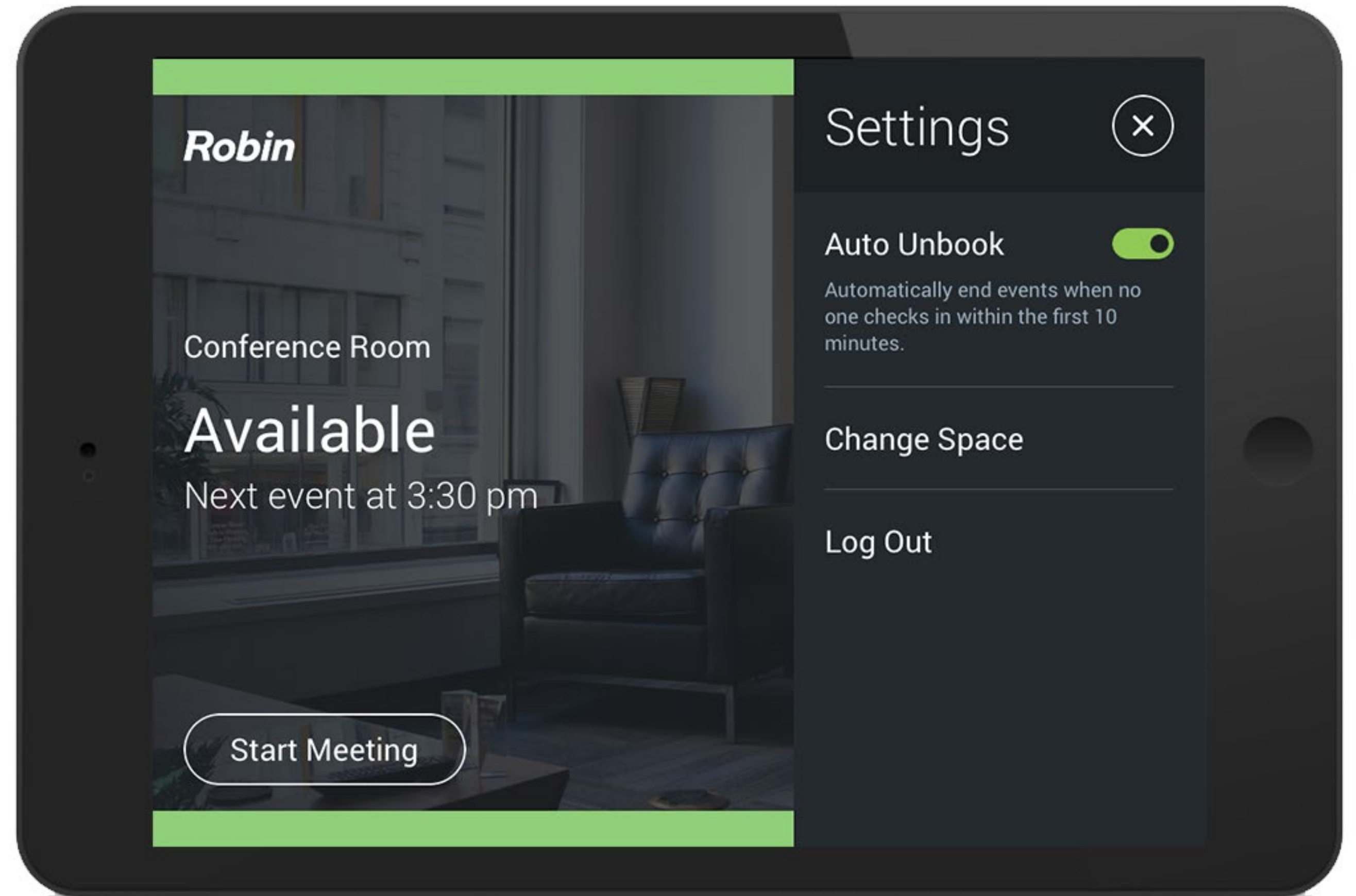


- Bunch-of-Slackers: most of the company is on Slack
- Another avenue to submit tickets
- Prompts Location entry → Saves technician time on having to track down the issue
- Hoping to increase user adoption so facilities doesn't have to submit ticket on behalf of employees

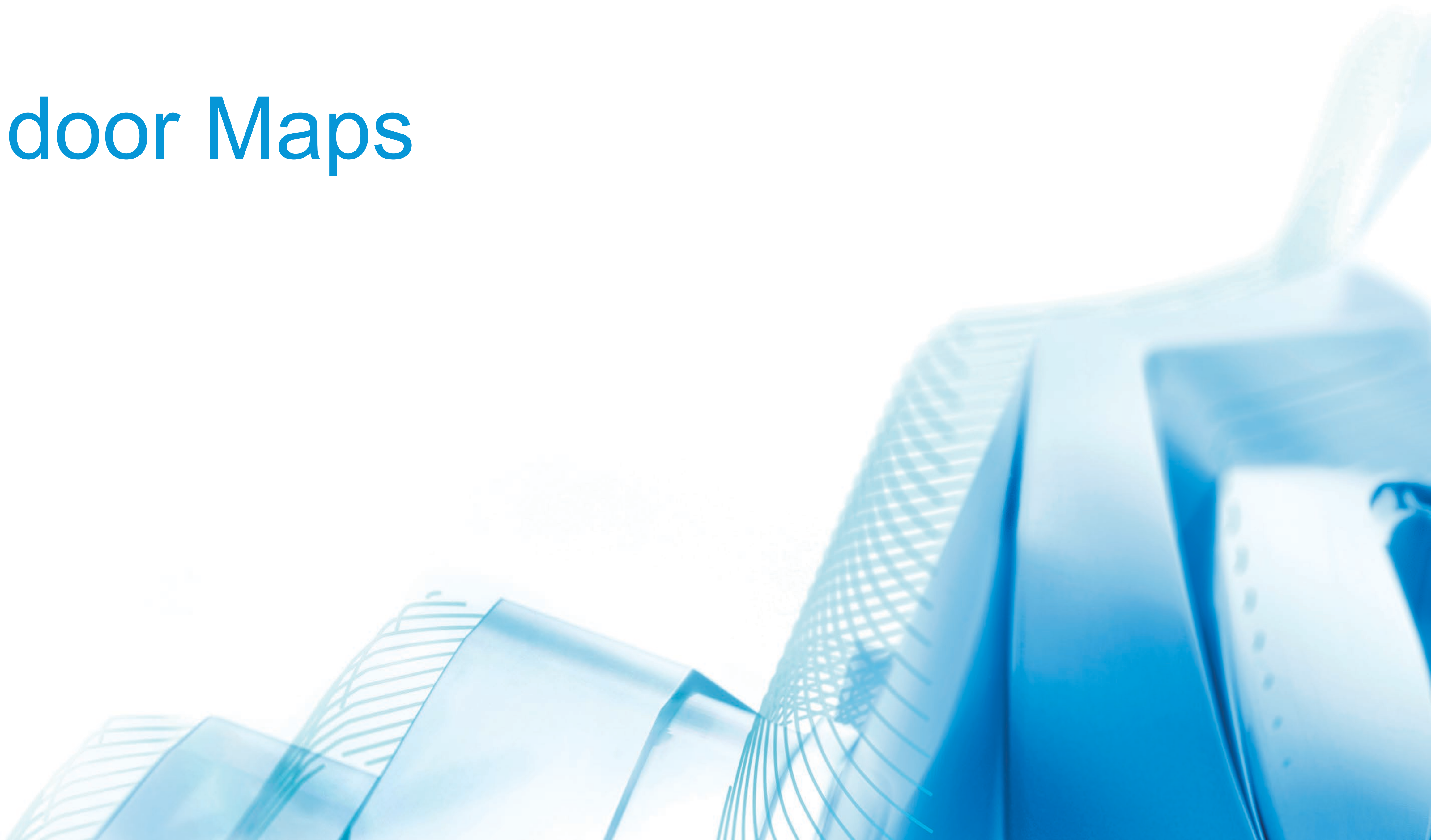
A screenshot of a Slack interface showing a ticket submission form. The form is titled "Selected Building" and "Autodesk Drydock Office". It prompts the user to "Please enter a location". Below this, there are two messages from "Katie" at 12:01 PM and "BIM 360 Ops" at 12:01 PM. The "BIM 360 Ops" message contains a "Ticket Summary" with the following details: "Description: Hi Jess! The audio in Asphalt is hard to hear over zoom.", "Building: Autodesk Drydock Office", and "Location: Asphalt". Below the summary are "Submit" and "Cancel" buttons. A "new messages" notification is visible on the right side of the interface. At the bottom, there is a search bar with the text "Message BIM 360 Ops" and a cursor pointing to it.

Robin

- Conference room booking system
- UI is easy and intuitive
- Does connect with Outlook
- This is being considered because it can be integrated with our systems (Ops & Service Now)



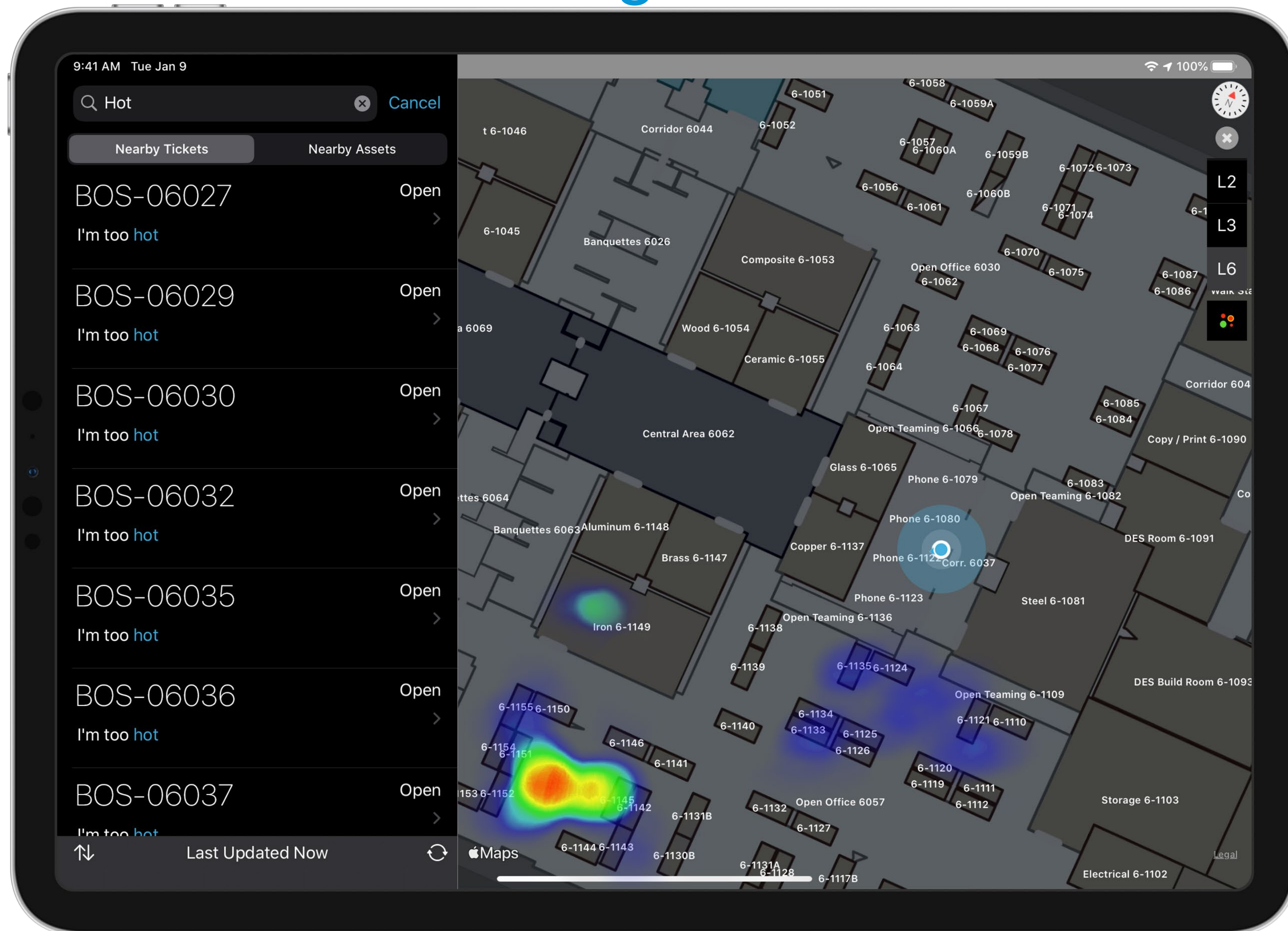
Indoor Maps



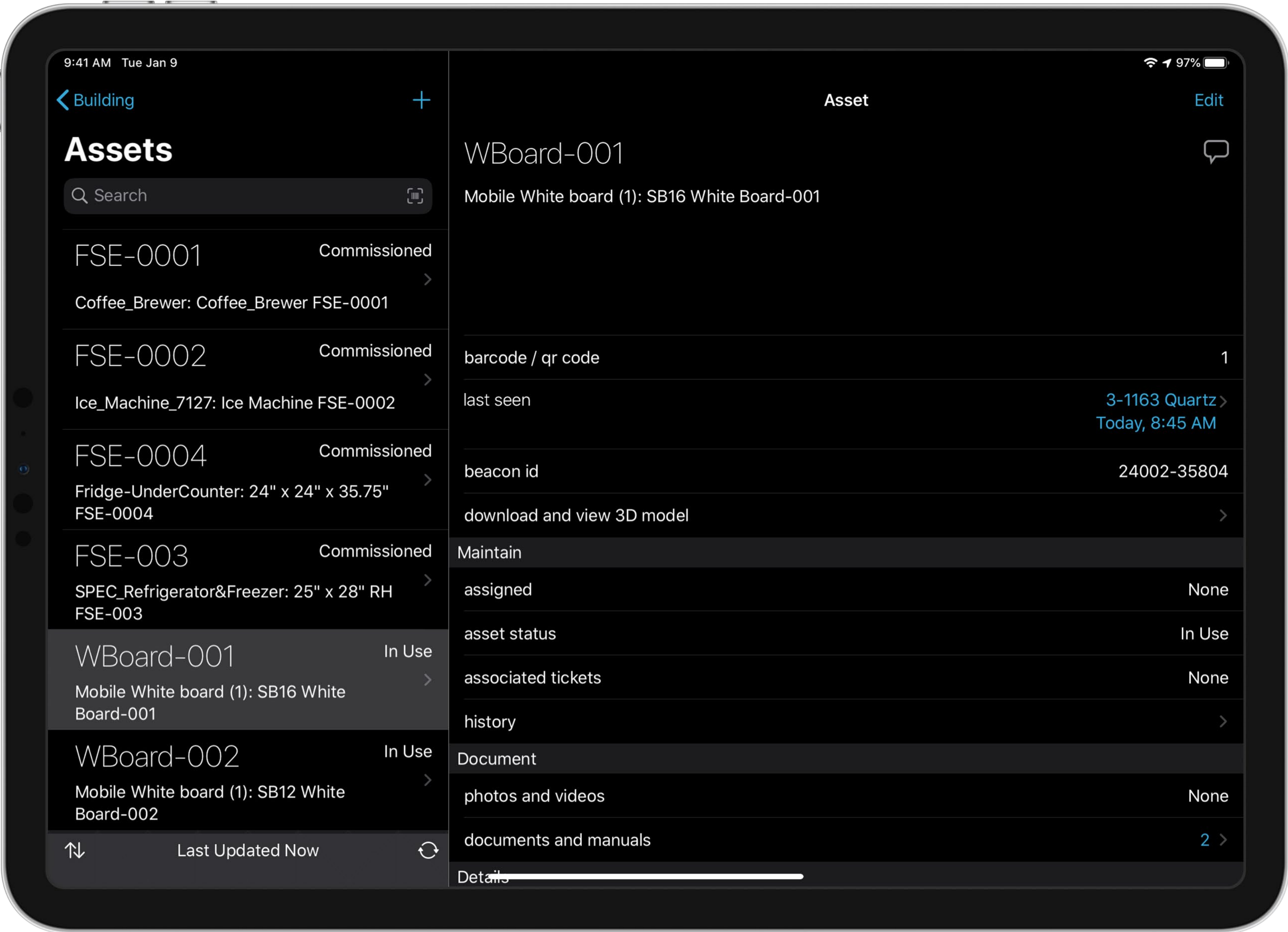
Viewing Tickets



Viewing Tickets



Asset Tracking



iOS Devices & Day Porters

- Beacons use Bluetooth to determine asset's location
- Who walks around the most in Boston? Our Day Porters!
 - Individuals in these roles are often forgotten about but can (and do in Boston) contribute to the locations for mobile assets
 - They have a constant view of the space
- How are they able to help?
 - Provided them with iPods
 - They can submit tickets to Ops
- Ops does translate to Spanish and Portuguese

PMs For Automated Reminders



Scheduled Tasks

- Not just for Preventative Maintenance!
- Use Scheduled Tasks as a way to automate reminders
 - Ex: Contract renewals, Assembly permits, Fire Drills
- Landlord responsibility? No problem, but we need to check

Name		Name ^
TASK-00262	United Kingdom - 3 years - Waste Contractor Certification Check and Waste Records Review	
TASK-00274	Boston - Annual - Contract Renewal - CityScapes	
TASK-00392	Boston - Annual - Contract Renewal - Jamestown Storage Agreement	
TASK-00475	Boston - Annual - Contract Renewal - Seaport TMA	
TASK-00568	Boston - Annual - Contract Renewal - EDF Energy Services	
TASK-00592	Boston - Annual - Contract Renewal - Restream	
TASK-00599	Boston - Annual - Contract Renewal - ENE	
TASK-00668	Boston - Annual - Contract Renewal - ABM	
TASK-00800	Boston - 3 years - Johnson Controls - Contract Renewal	

Scheduled Tasks

- Some of the benefits
 - We won't forget that we have to renew
 - Can add the documentation to the PM
 - Assembly Permits
- Don't have to chase down documentation, if uploaded to the Scheduled Tasks, will be attached to the generated ticket.
- We keep the old documentation attached to PMs so we have the history automatically listed on ticket

Boston

Scheduled Tasks

Tasks

Schedules

Add +

Name

Name ^

TASK-00392

Boston - Annual - Contract Renewal - Jamestown Storage Agreement

other x

add category

created by

Jessica Smith >

priority

Medium >

repeat every

1 Year(s) >

more v

checklist

None >

create ticket

1 Month(s) > before

history

View >

associated assets

None

associated locations

1 >

schedules

1 of 1 location scheduled >

Photos and Videos

Add Photo or Video

Documents and Manuals

Add PDF

8190c04c-bcbe-...

Time Saved



What did this do for us?

- More time is spent solving problems
- Customers get a faster resolution
- Brings critical issues to our attention sooner

ex: Heat Pumps in the ceiling, we may not see the alarm light or the email if we are away from our desks

- HUGE time saver!
- More eyes can be on our equipment
- Wasting less time chasing down mobile assets

Questions?



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BIM 360 Ops Resources

*****Email us! Ops.at.au@autodesk.com*****

- Blogs: <https://bim360ops.autodesk.com/blog>
- Product Site: <https://bim360ops.autodesk.com/>
- App Store (Mobile App): <https://itunes.apple.com/us/app/bim-360-ops/id941471006?mt=8>
- Web App: <http://ops.bim360ops.com/>



Get Started Now!

- Scan the barcode OR Visit <https://ops.bim360ops.com>
(or download **BIM 360 Ops** from the App Store)
- Enter your email address and join the portfolio **AU2019.**
- Confirm your email address and enter a phone #
- You are now an occupant of this portfolio
- Add tickets with questions, comments, feedback etc.!
- Create your own portfolio and start managing your own building.





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