# Issues API
CMMS Integration Use Case

Integrating AtonixOI with a facility's Computerized Maintenance Management System (CMMS) can improve the flow and quality of information between analysts who are coordinating the resolution of an issue and the facility staff who are scheduling and executing the tasks necessary to resolve the issue. The AtonixOI Issues API makes this integration possible.

AtonixOI Issue Resolution Process

The AtonixOI issue resolution process is a collaborative process between analysts who have detected an emerging asset performance or reliability issue and the facility staff responsible for the operation and maintenance of the affected asset. These teams work together to confirm the root cause of the issue and plan the work necessary to resolve the issue. This plan usually requires a facility maintenance worker to perform tasks defined, scheduled, and tracked through the facility's Computerized Maintenance Management System (CMMS). Sometimes there is one work order for an issue while other times there can be many work orders for an issue.
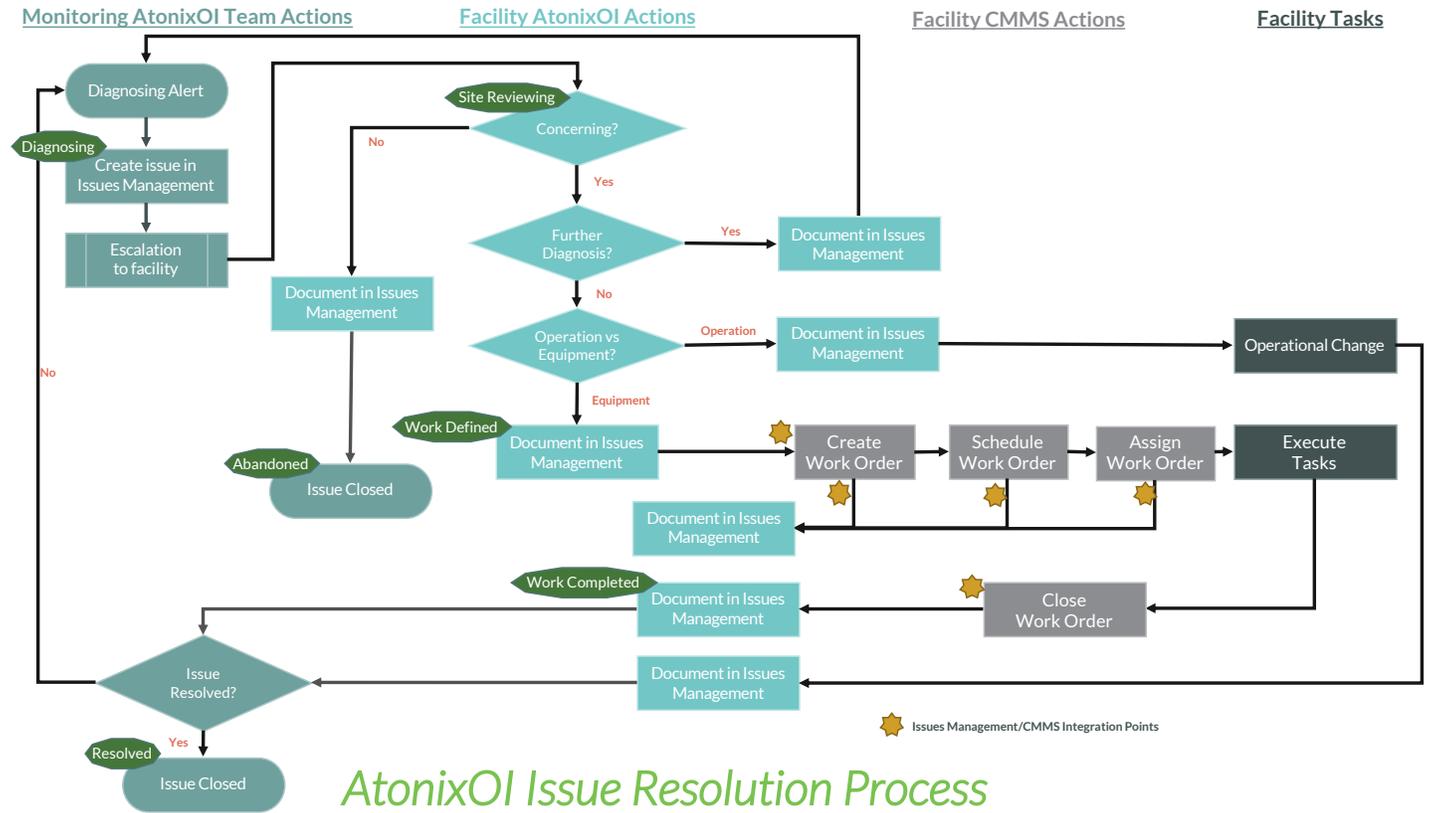

AtonixOI Issue Resolution Process
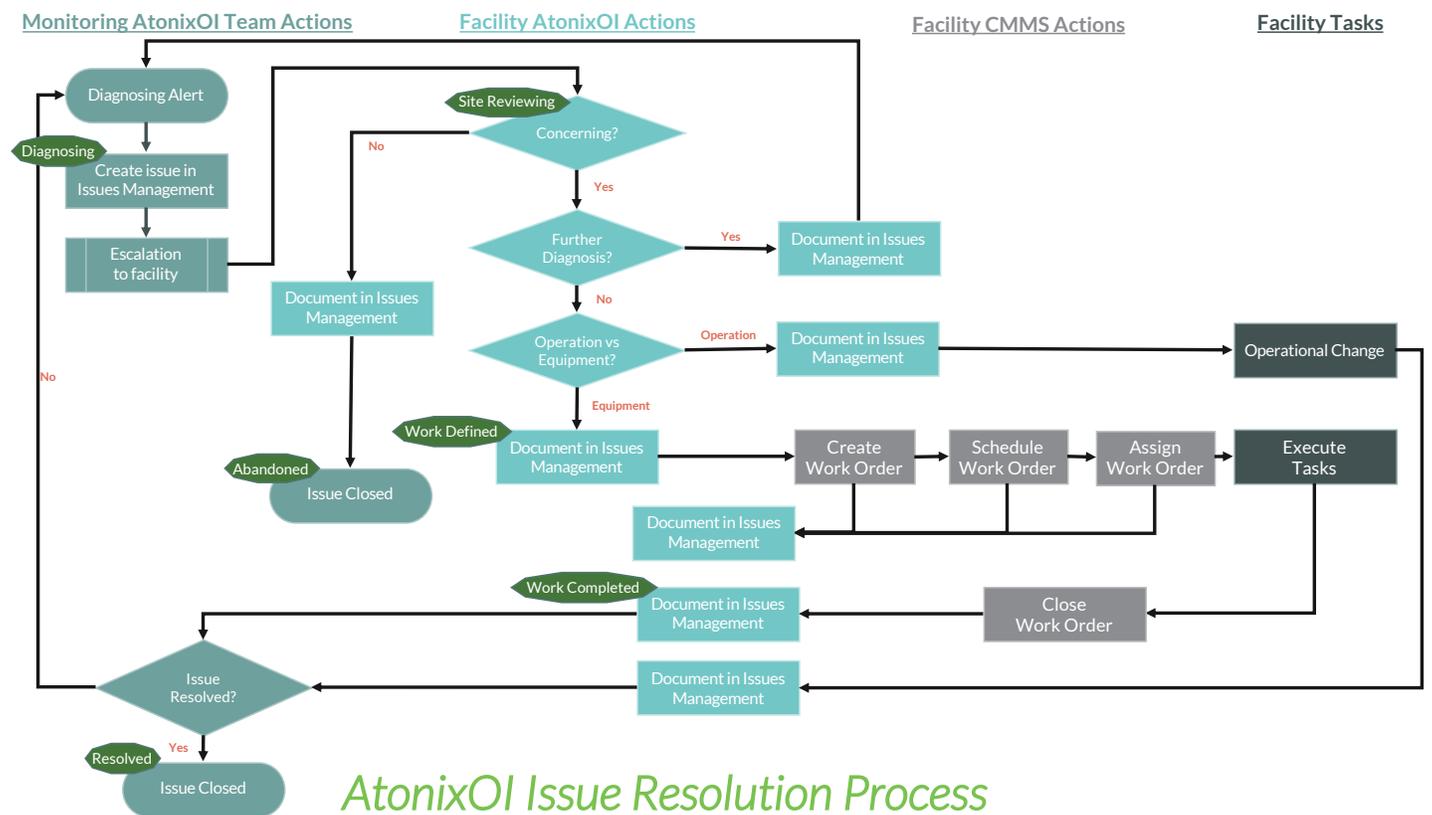
Issues Management/CMMS Integration

Integration between Issues Management and a CMMS reduces the manual data entry for both analysts and facility staff while the work is being defined, scheduled, assigned, and executed while increasing the quality and timeliness of the information exchanged between those coordinating the resolution and those performing the necessary tasks.
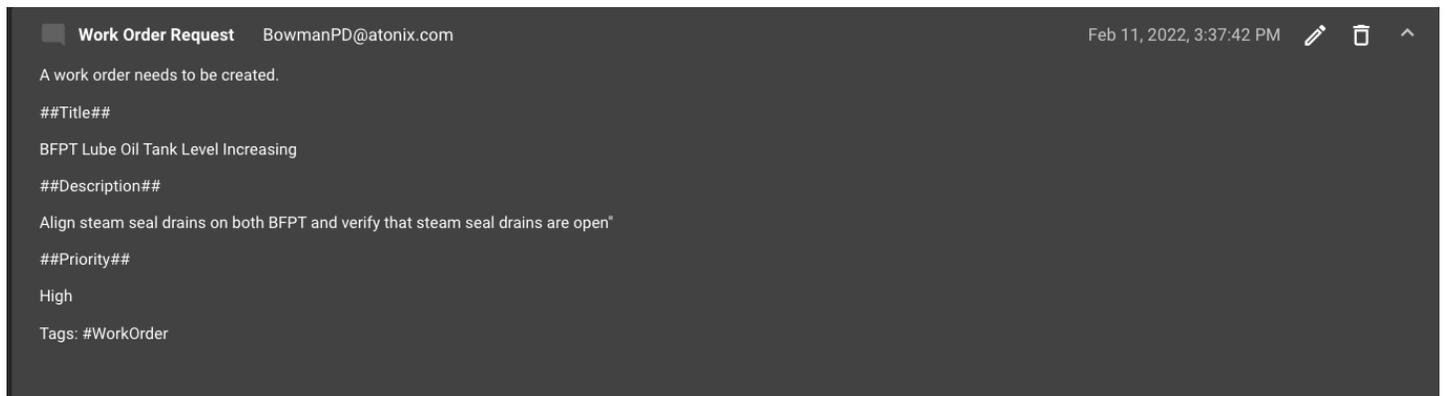
To learn more about Atonix Digital and the AtonixOI Platform, visit Atonix.com.

info@atonix.com

The integration points between Issues Management and the CMMS occur during the "Work Defined" and "Work Completed" steps in the resolution process, represented by gold stars on the following diagram.

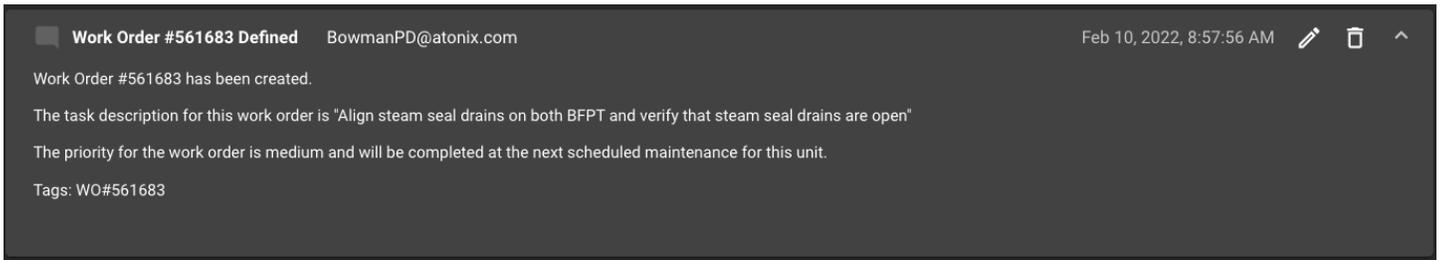

AtonixOI Issue Resolution Process

Create Work Order Through AtonixOI

The facility staff documents the requested work order in an Issues Management discussion post and changes the resolution status to "Work Defined"

> **Work Order Request**   BowmanPD@atonix.com   Feb 11, 2022, 3:37:42 PM
>
> A work order needs to be created.
>
> ##Title##
>
> BFPT Lube Oil Tank Level Increasing
>
> ##Description##
>
> Align steam seal drains on both BFPT and verify that steam seal drains are open"
>
> ##Priority##
>
> High
>
> Tags: #WorkOrder

After the work order has been created in the CMMS, the work order number can be captured as a "Keyword" in the issue, and the details of the work order can be captured in a discussion post.

ASSET

Eastern PC2 ✎

Issues by Owning Asset **25**   Alerts by Owning Asset **4**

ISSUE KEYWORDS

Keyword Search. ENTER adds the key⟩   ⊕ Add Keyword

WO#561683 ⊗

☐ **Work Order #561683 Defined**   BowmanPD@atonix.com   Feb 10, 2022, 8:57:56 AM   ✎ 🗑 ⌃

Work Order #561683 has been created.

The task description for this work order is "Align steam seal drains on both BFPT and verify that steam seal drains are open"

The priority for the work order is medium and will be completed at the next scheduled maintenance for this unit.

Tags: WO#561683

Algorithm

In a customer's AtonixOI hierarchy, periodically check for updated issues that may require the creation of a work order.

1. Find all issues that have changed since the last time the middleware checked for updated issues.

Get the bare reference of issues that belong to an asset

GET api.oi.atonix.com/v1/issues {

   Asset ID: the asset that owns the issues, start at the top of your asset hierarchy

   Changed After: the date the last time this asset was checked for updated issues

   Include Descendants: set to "true" to get issues that belong to descendant assets

   status: set to "open" to only get issues that are open
}

This will return the *Issue Title* and *Issue ID* for every issue that has been updated since the *Changed After* date. The response to this get call will be used in the next step.

2. Use the *Issue ID* obtained in step 1 to get the details of every issue that has changed since the last time the middleware checked for updated issues.

   ### Get details and status of an issue.

   GET api.oi.atonix.com/v1/issues/{*Issue ID*} {
         Issue ID: the id of a unique issue

   }

   This will return several pieces of information about an issue, but the *Resolution Status* is the important element of the response for CMMS integration and will be used in the next step.

3. Parse the updated issues for issues with a *Resolution Status* of "Work Defined."
4. Get the keywords belonging to a recently updated issue with a *Resolution Status* of "Work Defined".

   ### Get user-entered keywords used to associate to or contextualize the issue.

   GET api.oi.atonix.com/v1/issues/{*issueID*}/keywords {
         Issue ID: the id of a unique issue

   }

   This will return a list of *Keyword Descriptions* that will be used in the next step.

5. If an issue with a *Resolution Status* of "Work Defined" does not have a *Keyword Description* containing the work order ID, get the discussion posts for that issue to get the work order metadata.

   ### Get a list of discussion entries users created to detail the problem and work associated with the issue.

   GET api.oi.atonix.com/v1/issues/{*issueID*}/discussionentries {
         Issue ID: the id of a unique issue

   }

   This will return an array of discussion entries. These discussion entries can be parsed for metadata used to define different information required for a work order to be created. The use of a reserved phrase in the discussion post title can be used to identify the relevant discussion post. For example, "Work Order Request."

6. Create a work order via the CMMS API.

   Create a work order for the appropriate asset in the CMMS by mapping the AtonixOI Asset ID for the asset that owns the issue to the CMMS asset ID.

   ### This may require the creation and maintenance of a CMMS Asset ID and AtonixOI Asset ID translation table not documented here.

   If possible, check for an existing CMMS work order with the same *Issue Title* as the AtonixOI issue. If found, do not create a new work order with the same *Issue Title* as the AtoinxOI issue.

Map other metadata attributes into the work order such as description, failure date, web links, etc. Include the *Issue ID* as part of this metadata.

7. After the work order has been created in the CMMS, record the work order id as a keyword for the AtonixOI issue.

    Add keywords used to associate to or contextualize the issue.

    POST api.oi.atonix.com/v1/issues/{*issueID*}/keywords {
      Issue ID: the id of a unique issue

      Issue Keyword: keyword string that will be added to the issue

    }

8. After the work order has been created in the CMMS, record in a discussion post that a work order has been created.

   **Add a discussion entry to an Issue's discussions section**

    POST api.oi.atonix.com/v1/issues{*issueID*}/discussionentries {
      Issue ID: the id of a unique issue

      Discussion Title: the title for the new discussion entry that will be visible in the user interface and included in the issue notifications to users.

      Discussion Contents: the content for the new discussion entry that will be visible in the user interface and included in the issue notifications to users.

    }

Capture Changes to CMMS Work Order in AtonixOI

As the work order is executed by the facility staff and that information is captured in the CMMS, those updates should be documented in the AtonixOI issue and the status of the issue updated so stakeholders are aware that the issue is progressing through the resolution process.

Schedule Work Order

As a work order is scheduled in the CMMS, or the schedule changes, the scheduled completion date can be captured in Issues Management's "Resolve By Date" field using the Issues API as the date changes in the CMMS without any further work by the facility staff or analyst to update this field in Issues Management.
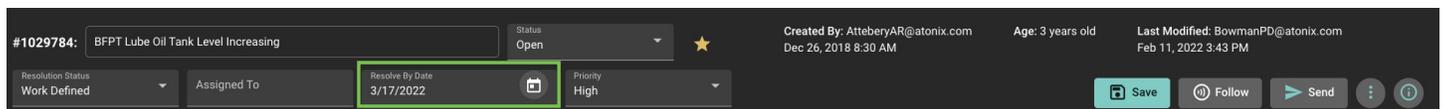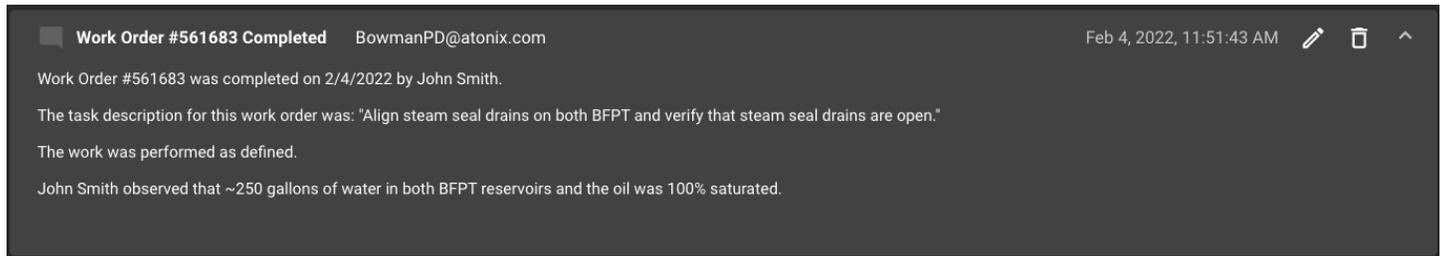

Work Order Updates

As a work order is updated in the CMMS, miscellaneous fields in the CMMS such as description, failure date, reported date, etc. can be captured in a new AtonixOI discussion post to keep stakeholders informed without manually transferring data between systems.

Close Work Order

When the work order is closed in the CMMS, the resolution status of the issue can be updated via the Issues API without further work by the facility staff or analyst to update this field in Issues Management. This will prompt the analyst to review the performance of the asset and verify that the work order resolved the issue.

The details of the work performed and observations by the facility maintenance staff can be recorded in a new discussion post so the analyst trying to determine whether the asset has returned to nominal behavior and the issue has been resolved has the full context of the work performed on the asset.

Work Order #561683 Completed   BowmanPD@atonix.com   Feb 4, 2022, 11:51:43 AM

Work Order #561683 was completed on 2/4/2022 by John Smith.

The task description for this work order was: "Align steam seal drains on both BFPT and verify that steam seal drains are open."

The work was performed as defined.

John Smith observed that ~250 gallons of water in both BFPT reservoirs and the oil was 100% saturated.

Algorithm

Periodically poll the CMMS for changes in a work order that is associated with an AtonixOI issue. This may include changes to the work order's status, schedule, who it has been assigned to, the priority of the issue, etc.

1. Use the *Issue ID* for the issue associated with the work order to get the details of an issue that needs to be updated with new work order data from the CMMS.

   ### Get details and status of an issue.

   GET api.oi.atonix.com/v1/issues/{*Issue ID*} {
   　　　Issue ID: the id of a unique issue

   }

   This will return several pieces of information about an issue.

2. Update the appropriate element of the issue with data from the CMMS. Possible elements are

   ### Update some of the existing issue details

   PATCH api.oi.atonix.com/v1/issues/{*Issue ID*} {
   　　　Priority change the priority of the issue to reflect the work order's priority in the CMMS.

   　　　Resolve By Date change the issue's resolve by date to match the scheduled execution date in the CMMS for work orders that have not been executed or the actual execution date for completed work orders.

   　　　Resolution Status change the issue's resolution status to "Work Complete" if the work order has been executed.

   }

   This will update the issue with the latest information from the CMMS on the status of the work order associated with the issue.

3. Record miscellaneous data from the CMMS in a discussion post for the issue.

Add a discussion entry to an Issue's discussions section

POST api.oi.atonix.com/v1/issues{*issueID*}/discussionentries {
> *Issue ID*: the id of a unique issue

> *Discussion Title*: the title for the new discussion entry that will be visible in the user interface and included in the issue notifications to users.

> *Discussion Contents*: the content for the new discussion entry that will be visible in the user interface and included in the issue notifications to users.

}