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## Archibus: From Space Inventory to Action

Mike Zimmer  
SpaceIQ

### Learning Objectives

- Understand the Archibus Extension for AutoCAD
- Understand the Archibus Smart Client's role in publishing AutoCAD data into the Archibus Space Module.
- Understand how spatial data is leveraged throughout Archibus
- Understand the solution's capability of supporting desk hoteling

### Description

Explore how organizations that leverage Archibus, maintain their space inventory in AutoCAD and have those changes reflected in the Archibus solution with a few clicks. We'll also see how teams can then utilize a complete and accurate space inventory in Archibus to meet organization initiatives, namely a Return to Office (RTO) plan.

### Speaker(s)



Mike Zimmer is a Solutions Engineer at SpaceIQ, with a dedicated focus on the Archibus solution. He has eight years of experience in the industry spanning several types of solutions IWMS, CMMS, EAM, and Lease Administration.

## The Archibus Extension for AutoCAD

The Archibus Extensions for AutoCAD and Revit are powerful tools that facilitate the integration of your CAD and BIM data with your enterprise data. This integration ensures that your CAD and BIM data is up-to-date and validated against your enterprise data standards, so that it is relevant for the lifecycle management of your facility. The following is a more detailed look at how this is accomplished. There will also be links to the help documentation on this topic.

### Getting Results

The Archibus Client Extensions use:

- Web Services to connect your CAD and BIM data live to your lifecycle database and facility management processes. See [Smart Client Extensions and the Database](#)
- [Enterprise graphics](#) as a graphical index to make all CAD and BIM data instantly searchable and accessible, even over the Web.
- A wealth of validation tools to find and resolve errors in accuracy and consistency for areas, locations, and classifications of space, suites, equipment. Doing so ensures that you are operating your processes on solid data, and performing any external chargebacks on auditable results.

When you have synchronized your CAD, BIM and enterprise data, the [asset symbols](#) in your drawings and BIM models act intelligently. These assets and your graphics then appear in:

- Interactive forms, such as those that highlight suites for expiring leases or rooms with active work
- Dynamic reports, such as those that show today's space allocation by department or projected occupancy
- Dashboards and consoles, that roll up CAD and BIM data, such as area data, to give the big picture of how you are using space and assets and what line of business they support.

Typically, the CAD and BIM team uses the Extensions to connect the CAD and BIM drawings and to make changes in a backoffice fashion. All other roles can use the Web interfaces to interact with forms, reports, dashboards and processes without needing any CAD or BIM knowledge, and without needing copies of the Extensions themselves.

### Understanding the Smart Client's Role

The Smart Client Extensions provide the CAD and BIM specialists with the backoffice functionality that they need to support the "Run Anywhere" and Web Central processes. When you add a drawing or model using Archibus, the program adds it to the Drawing List table (afm\_dwgs). If a drawing is in the [Drawing List](#), Archibus will keep the data associated with the drawing or model up-to-date as you add, remove, and edit entities within the drawing or model.

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Archibus also uses the Drawing List to find your drawing or model content from searches that cross multiple floors or buildings. If an Archibus query needs to know all of the rooms that contain employees to be moved, all of the buildings that have open work orders, or all of the suites that have expiring leases, Archibus looks into the intelligent drawings to find the right properties, buildings, floors, suites, rooms, etc. to present.

The following describes the process you follow to integrate your CAD and BIM data with your enterprise facility management data:

- **Register drawings and models with the Archibus Drawing List:** Register CAD drawings (dwg files) and BIM models (.rvt files) with the Archibus Drawing List. Archibus uses this registry to find and index the graphic content and to correlate data consistently across portfolios that are comprised of a mix of thousands of drawings and hundreds of BIM models. See:
  - [Creating New Floor Plan Drawings](#)
  - [Enabling the Archibus Commands and Adding a Revit Model to the Archibus Database.](#)
- **Catalog CAD entities and BIM objects:** Catalog CAD entities (blocks and polylines) and BIM objects (for example, rooms, spaces, furniture, and equipment) with Archibus so that they are “Archibus aware” and can keep themselves synched with the Archibus enterprise database. See:
  - [Creating Assets: Overview](#)
  - [Adding Additional BIM Parameter Data to Archibus](#)
- **Create enterprise graphic files:** Create enterprise graphic files(.json, .emf, .svg) from CAD and BIM models, so that Archibus has a manipulable index back into the graphic databases of record. See:
  - [Publishing Enterprise Graphics](#)
  - [Use Revit Enterprise Graphics on the Web](#)
- **Reconcile graphic and database data.** See:
  - [Synchronizing Your Data: Overview](#)
  - [Resolving Synchronization Issues \(BIM\)](#)

Additionally the Help includes the following sections to help you get started using the Smart Client Extension for AutoCAD or the Smart Client Extension for Revit:

- [Getting Started with the Smart Client Extension for AutoCAD](#)
- [Reviewing Basic AutoCAD Skills](#)
- [Creating CAFM Drawings](#)
- [The Smart Client Extension for Revit - Overview](#)
- [Getting Started with the Smart Client Extension for Revit - Overview](#)

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## How Spatial Data is Leveraged Across Archibus

Once the floor plans are developed in AutoCAD and published/made available in the Archibus solution, organizations can leverage that data in a variety of different modules of the tool. Including the following:

Product	
<a href="#">Space (Archibus Essentials SaaS module)</a>	<p>Develop space and personnel inventories, charge for space, and manage moves.</p> <p>Perform all of the functions of the below products except:</p> <ul style="list-style-type: none"> <li>• <a href="#">Workspace Transaction Space Inventory</a></li> <li>• <a href="#">Shared Workplace Chargeback</a></li> <li>• <a href="#">Space Planning</a></li> </ul>
<a href="#">Space Inventory</a>	<p>Develop your space inventory by representing floor plans in CAD and connecting area boundaries to database records.</p> <p>Optionally, record changes to room assignments (such as changes to employee assignment, department assignment, type, and category) as a series of Workspace Transaction records. This inventory method is not available with <a href="#">Archibus SaaS</a>.</p>
<a href="#">Space Chargeback</a>	<p>Internally bill departments for the space that they occupy as well as their share of the floor's or building's common space.</p>
<a href="#">Occupancy</a>	<p>Once you develop a space inventory, manage how it is occupied. Enter your employees and teams and produce occupancy plans, employee headcounts, and inventories of employees by site and building. Determine employee-to-seat ratios and occupancy rates.</p>
<a href="#">Moves</a>	<p>Plan and manage "box moves," in which office contents are packed into boxes and moved to another office.</p>
<a href="#">Space Planning</a>	<p>Develop space requirements, work with stack plans to experiment with different allocations of space, and compare the different scenarios.</p>

Additionally, organizations may want to integrate this information into their space management procedures:

Tool	Description
<a href="#">Archibus Workplace (self-service portal)</a>	<p>Search for buildings and review their floor plans.</p> <p>Search for rooms and locate them on floor plans.</p> <p>Search for employees and locate their offices (either permanently assigned seats or booked seats) on a floor plan.</p> <p>Search for a department and examine on a floor plan all the space assigned to this department.</p>

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## Hoteling/Back to Work in Archibus

### Hoteling

In today's business environment of telecommuters and contract workers, your site has likely set aside a group of unoccupied rooms specifically intended for temporary occupancy. Or, your site might have eliminated all permanent offices and implemented a hot-desk strategy in which employees book a seat each time they come to the office.

Establishing a system for organizing the occupancy of these rooms can help you use expensive space more efficiently. Moreover, when your contract and telecommuting employees arrive at the site, they will be happy to have offices waiting for them and will be immediately able to start working.

With the Hoteling application, users such as the following can search for and book a working space:

- any employee who is not assigned a permanent seat can book a seat for the days they are in the office
- contract or temporary workers
- employees working only half a day
- telecommuters who will be working on site
- groups of employees displaced due to renovations
- outside vendors and contractors working on a renovation project and requiring office space
- work teams requiring team rooms for temporary projects

The process is similar to a booking a hotel room:

- search for available spaces given a number of search parameters (dates, type of room, building, and so on)
- see the available spaces in a floor plan
- select spaces to book
- review and the list of booked spaces
- confirm (check into) the booked space on the day of the booking (if your site implements this optional feature)

Rooms can be booked for any time period, ranging from half-days to years, and can also be booked on a recurring pattern (such as every third Monday). Depending on your security and how the business process owner has configured the application, a department manager's approval may be required.

Workflow rules ensure that rooms are tagged for cleaning and cleaning is completed before the room is available again for occupancy.

As with permanently occupied space, keeping track of the cost of hoteled space is essential for cost control. All booked spaces are charged back to their corresponding departments in the same way as permanent spaces are charged. By charging departments for their space use, the

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application encourages a shared responsibility for reducing space costs among department and facility managers alike.

Sites may also wish to provide general staff, building occupants, telecommuters and others with access to the following tools so that they can book and check into rooms directly from their smart phone or mobile device. Bookings made from these programs are then managed with the Hoteling application, in the same way as bookings made from the Hoteling application's Create Bookings task.

- the Archibus Workplace Services Portal mobile app
- [Archibus Workplace self-service portal](#)

## Back to Work

When organizations are reopening a facility following a long period of being closed such as after the COVID pandemic, they may want to leverage the aforementioned hoteling capabilities of the Archibus solution to support a flexible, hybrid working environment.

In addition to these capabilities it should also be noted that there are additional features available in Archibus to support a safe Return to Office strategy.

### Step 1: Prepare the floor plan

1. In the [Room Standards table](#), set the “Analyze Safe Distance?” field to control the room standards that the Space Console's Safe Distancing command considers when determining safe distancing circles.
2. From the Space Console, enter the [mandated occupancy and safe distancing targets](#) so that you can determine the amount of space you have for housing employees in hotelable rooms.
3. Activate the desired hoteling parameters that relate to back-to-work. See [Workspace \(Hoteling\) Parameters](#).
  - Enforce Floor Capacity Target
  - Prevent Double Booking
  - Enable Check-In
  - Full Day Booking
  - Enable Health Check (for Workplace check-in only)
4. [Indicate safe distancing on the floor plan](#).
5. [Update room availability for return to work](#). As with rooms designated for permanent occupancy, hotelable rooms must be appropriately distanced in case two adjoining rooms are booked on the same day. In this step, update rooms that are too close to one another and must be taken off line, as well as rooms that require a deep cleaning before being brought online.
6. [Review the set of hotelable rooms](#) and adjust the set as necessary for your return-to-work needs. This may require [clearing rooms of their employee assignments](#).

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## Step 2: Implement hoteling

Once you have a set of hotelable rooms, you are ready to implement a hoteling strategy.

1. Using the [Mark Employees for Return to Work](#) task, set Return to Work Info to Hotelable for the employees who will return to work in a hoteling capacity.
2. [You can notify employees](#) to alert them that they will be booking their seat each day that they come to the office.
3. When employees return to the office, each day they book rooms using one of these tools:
  - [Workplace](#)
  - [the Reservations module \(Create Bookings task\)](#)
  - [the Hoteling application \(Create Bookings task\)](#)
  - the [Workplace Services Portal mobile app](#)

When employees search for rooms, the search results include rooms whose [Room Status](#) is Available and whose Is Hotelable? field is set to Yes. Additionally, the search eliminates any floors whose capacity target has already been reached through both hoteling seats and permanent seats.

Once an employee books a room, the [workflow rule](#):

- creates a CLEANING-WORKSPACE service request for each floor on which at least one room has been booked during that day.
  - sets the Room Status for the booked room to "Requires Cleaning." The room is no longer available for booking.
  - When the generated CLEANING-WORKSPACE service request is completed, [the closing procedure](#) sets Room Status to Available so that the room can be booked again.
4. If you have set the Check-In parameters, employees can check into their rooms upon arrival using the [check-in features](#) of Workplace, the Workplace Services mobile app, or the Confirm Bookings task of the Hoteling application and Reservations module.
    - Additionally, Workplace users can attest to their health before checking in to their booked seat.
    - See [Attest to Health Before Checking in to Booked Workspace](#).
  5. The facility manager can check the Alerts section of [the Dynamic Workplace home page](#) to see alerts on cleaning requests for hotelable rooms that are more than one day old. For details on the alert, see [Return-to-Work metrics and workflow rules](#). They can also check the [Bookings for a Date Range report](#) for statistics about the use of booked rooms.