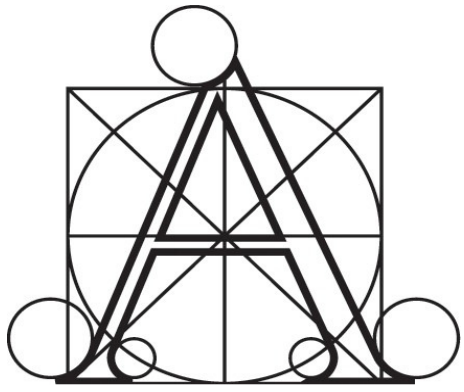
ARCHIBUS v22.1 new release guide (draft) is brought to you by ROBOTECH FM Solutions



ARCHIBUS

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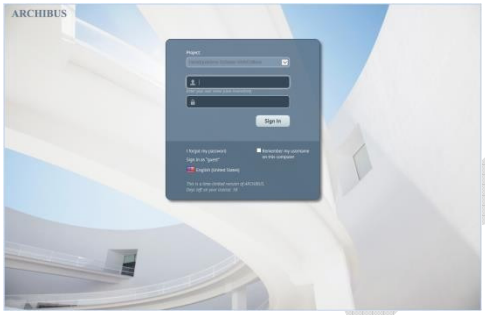
What's New in ARCHIBUS V.22?

ARCHIBUS V.22: Innovation for a Rapidly-Evolving Industry

ARCHIBUS V.22 has extensive features added for portfolio forecasting, strategic space planning, asset management and enterprise asset management. ARCHIBUS V.22 is also one of the largest ARCHIBUS releases ever in terms of enhancements and changes -- far too many to detail individually. As long as it is, this document only highlights the key additions.



As always, we are grateful to all of the users, user groups, and members of the ARCHIBUS community who have generously shared their time to enumerate their needs. We are gratified by their faith in ARCHIBUS, and were main dedicated to providing the continual innovations they need to succeed in this rapidly evolving industry.

Integration without Compromise

ARCHIBUS is considered by many, the industry's most completely integrated application for real-estate, infrastructure and facility management. ARCHIBUS can be utilized to effectively manage an organization’s assets throughout the world, with central visibility and intelligence.

And even though ARCHIBUS V.22 adds dramatically enhanced functionality --including new applications -- all features are easy-to-use because they work in the same, centralized, unified environment. Every single element of data you enter into ARCHIBUS works for you multiple times because all applications leverage the same central data store. Some of the workflows contained in V.22 make your team more effective because processes naturally flow between applications for instance, your existing space inventory flows into spaces forecasts, and your asset management plans flow directly into capital planning and project execution. Each feature is integrated without compromise into a seamless whole to make you more productive every time you access the program.

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Real Estate Portfolio Management

Portfolio Forecasting

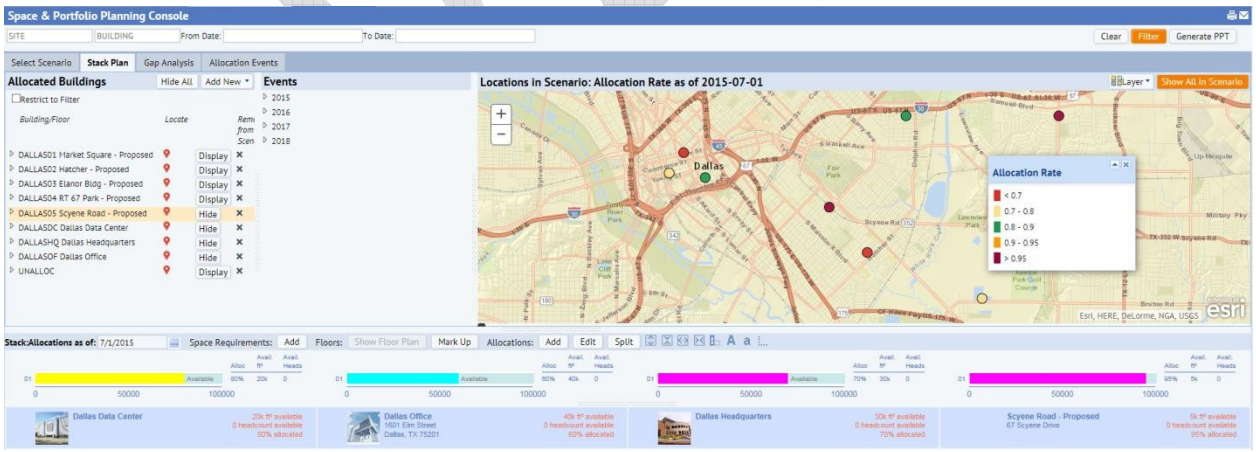
V.22 includes a major revamp of the Portfolio Forecasting application, giving it fundamentally expanded new functionality and seamless integration with Enterprise Asset Management, Project Management, and Move Management.

The Portfolio Forecasting application lets you work seamlessly at different scales -- from the portfolio-scale through the site, campus, district and/or city scales, all the way down to the room level. To achieve this complete integration, the Portfolio Forecasting application provides a superset of the features of the new Strategic Space Planning application intended for master planning as well as other planning staff and/or teams. These features smoothly bridge the gap between strategic planning and tactical execution. Strategy flows directly from design into execution and the subsequent management of activities; detailed requirements and business needs identified by individuals and teams involved in Portfolio Forecasting roll up to reflect practical concerns and constraints to operations teams and business managers, to senior leadership teams and others.

This complete integration makes it possible for the portfolio planner to coordinate the vision of stakeholders that have a strategic perspective and stakeholders that have a tactical perspective. By aligning strategic and tactical perspectives, roles, objectives and processes, the portfolio planner can identify and mitigate risk factors and avoid pitfalls that otherwise would only be found during execution.

Portfolio-Scale Scenarios

Portfolio planners need to create a short-term, medium-term and long-term real estate portfolio plan that matches the organizations' business plan. In addition, they often need to react to business events -- such as merger, acquisition, aggressive business plan growth, or re- organization.



The application allows any number of multi-year planning scenarios to be carried out at different levels of detail for any portion of an entire organization's or agency's portfolio. Scenarios can make use of existing inventories and/or propose new parcels/properties/buildings/infrastructure/leases/contracts as they come on line during specific time frames.

This scenario modeling provides the portfolio planner the hard numbers they need – in terms of asset inventories, space, cost, and time -- to argue for or against specific courses of action.

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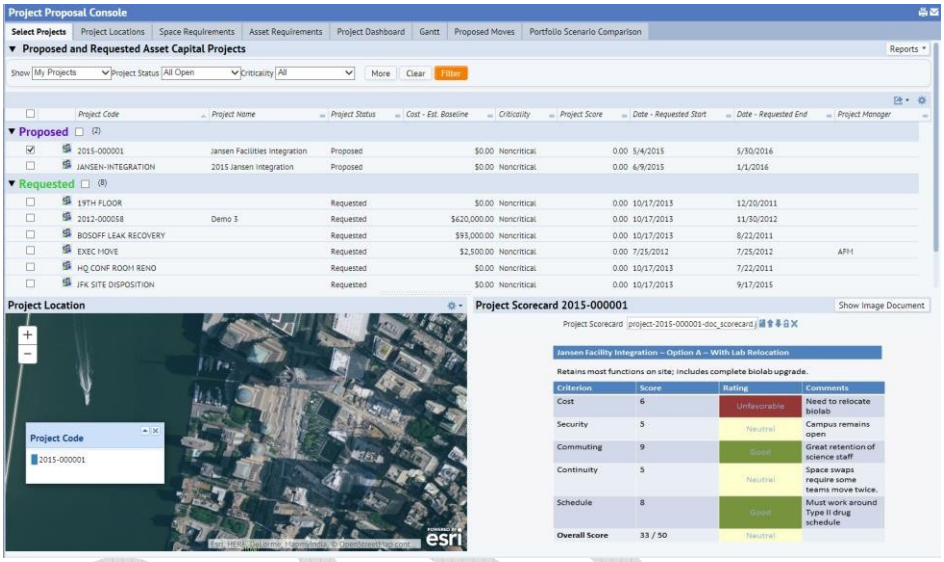
Navigation Path

Real Estate Portfolio Management/Portfolio Forecasting/Portfolio Forecasting/Space &Portfolio Planning Console

Project Proposal Console

Real Estate teams make changes to the portfolio with a series of carefully-designed and prioritized projects. Portfolio planners must convey project objectives, constraints, and potential solutions to all consumers and stakeholders.



Those who use Enterprise Asset Management application can make use of the Project Proposal Console, in which the space requirements developed in planning scenarios appear integrated with capital requirements, asset requirements, project tasks and schedule needs.

The console presents the scoring for each project and there as on the planning team would argue for or against a specific course of action. You can have any number of proposed projects associated with space scenarios as you evaluate alternatives.

When you approve a specific proposal, all details of that project -- from the asset requirements, to the detailed business requirements of the affected teams, to the move list--flow directly into the ARCHIBUS Project Management application, the Enterprise Asset Management application, and the Enterprise Move Management application.

Navigation Path

Asset Management/Enterprise Asset Management/Facilities Asset Manager/Project Proposal Console

Gap Analysis

The Gap Analysis connects the business events and decisions with their numeric impact on the portfolio. For instance, if you dispose of a building or create a new lease, the Gap Analysis shows the net effect on the facility in terms of capacity, allocation, and utilization rate. If the allocation climbs above the shaded utilization area, the scenario does not have enough space in that timeframe to accommodate the business, and the organization must make a change.

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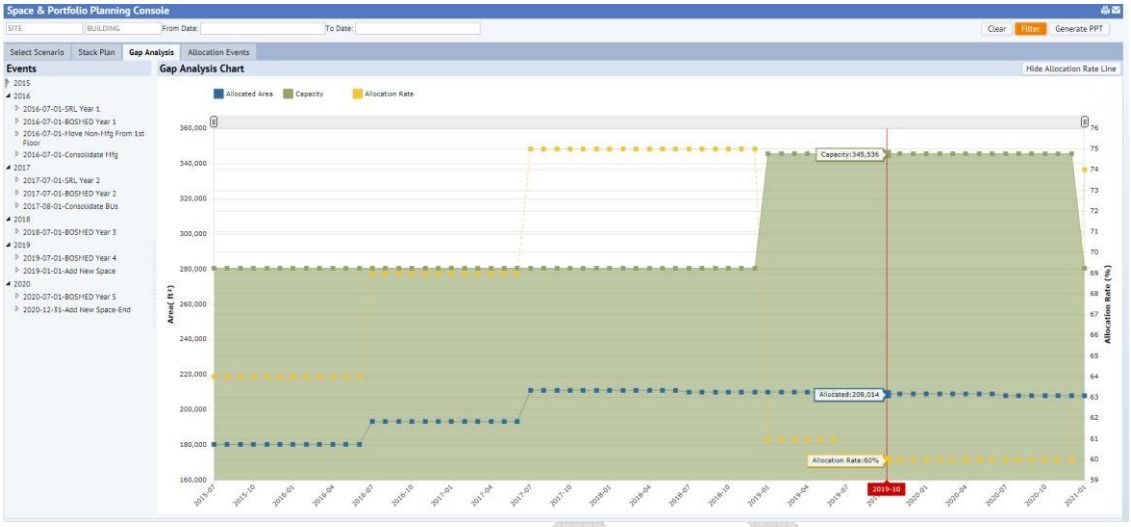


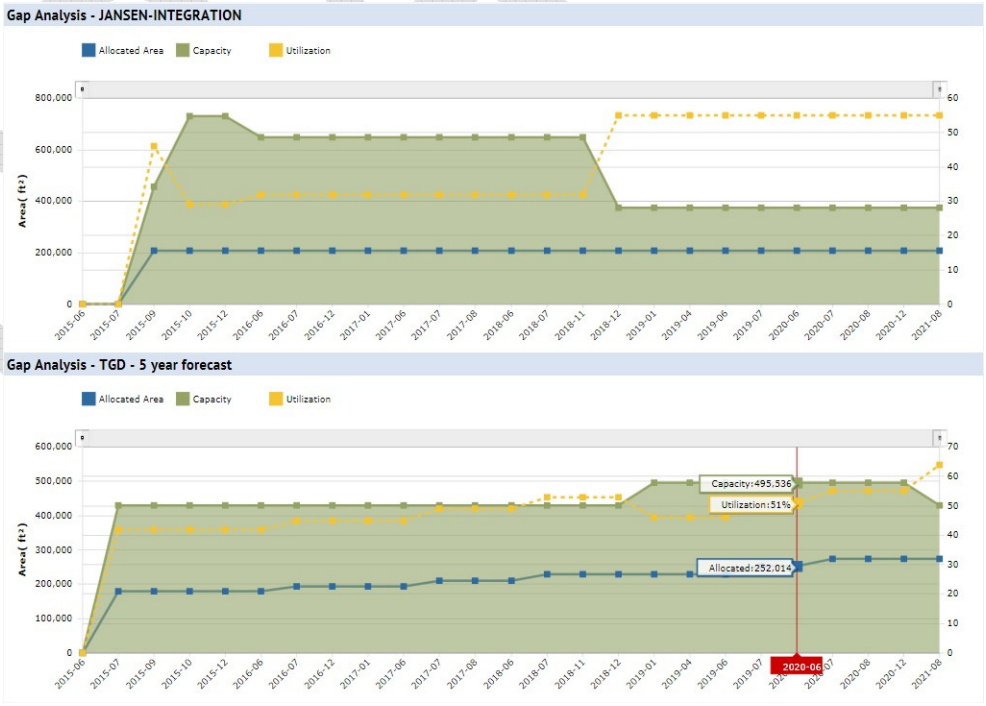
The Gap Analysis expresses the myriad of detail that each planning scenario may involve--hundreds of moves, a dozen lease changes, and the disposal of an entire site -- into aninarguablesummaryoftheeffectsofthesedecisionsthatthebusinessteamcanusetoformaconsensusforaction.

Navigation Path

Real Estate Portfolio Management/Portfolio Forecasting/Space & Portfolio Planning Console

Portfolio Scenario Comparison

This analysis lets you select two scenarios to see their results over time side-by-side.

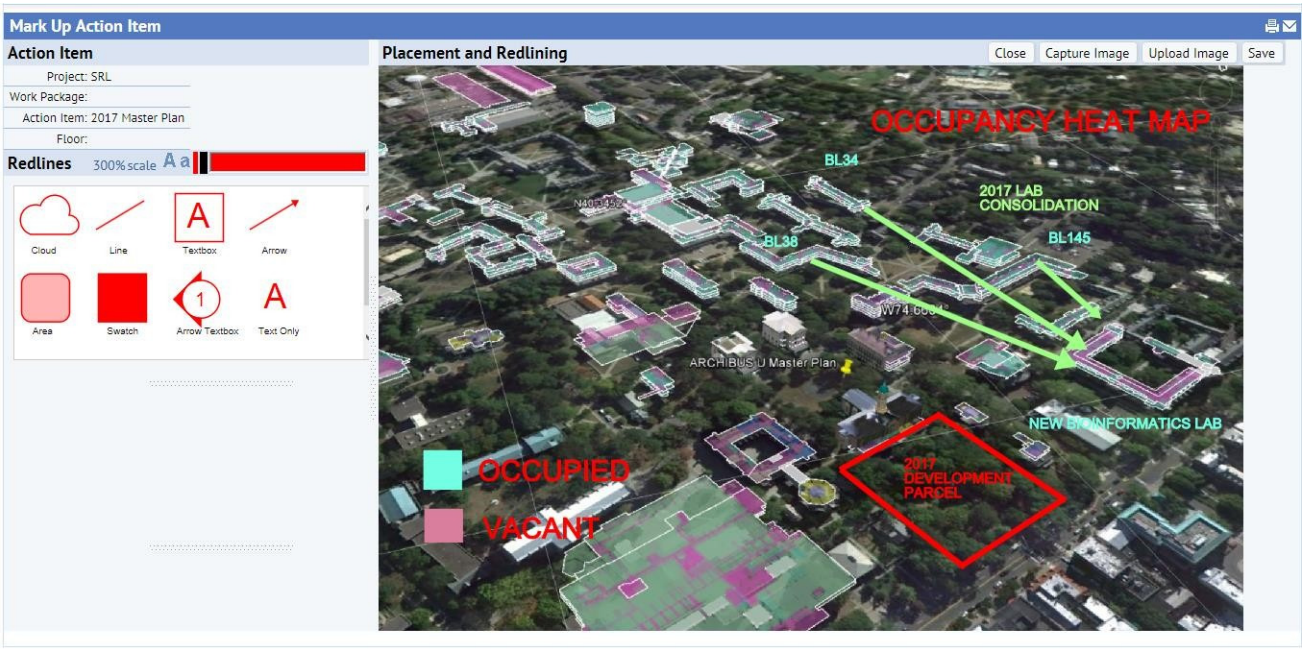


Navigation Path

Real Estate Portfolio Management/ Portfolio Forecasting/Portfolio Scenario Comparison

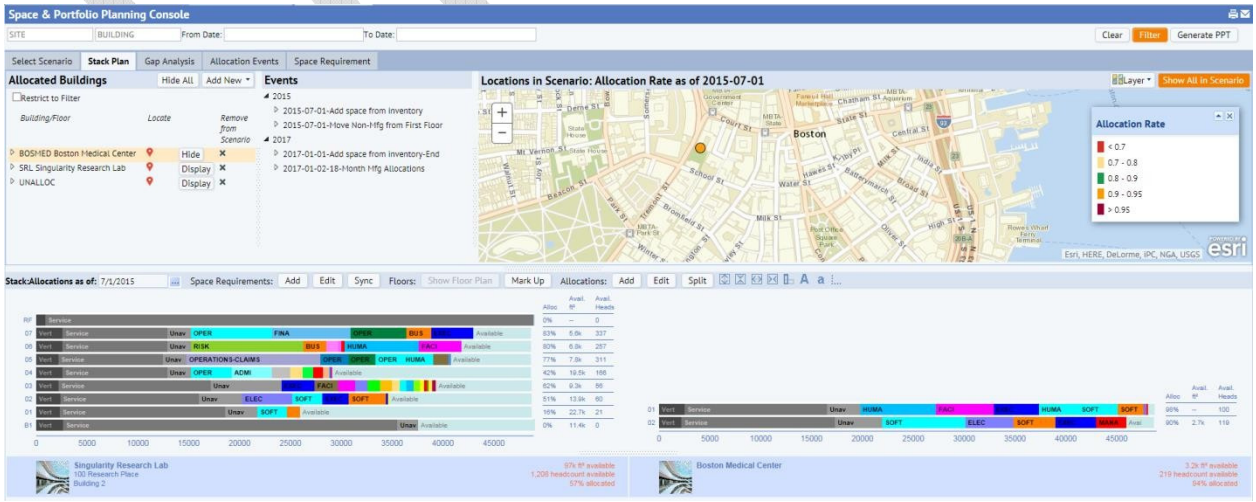
Campus Scale Planning

Planners can develop project tasks directly within forecasting scenarios -- right inside the Space & Portfolio Planning Console. These tasks can gather details about the business needs, and graphics and markup plans about the actions to be taken. If you have the Project Proposal console, you can export all of these tasks to PowerPoint to walk stakeholders through the process of how their organization is affected.



Building-Level Planning

Planners must evaluate if their plans work on the detailed level. The Space & Portfolio Planning Console can import inventory data -- at the business unit, division, department, functional group level. It can also import detailed group-by-group or room-by-room requirements and forecasts from the lines of business to understand how needs are changing in each timeframe or after each acquisition, termination, or move.

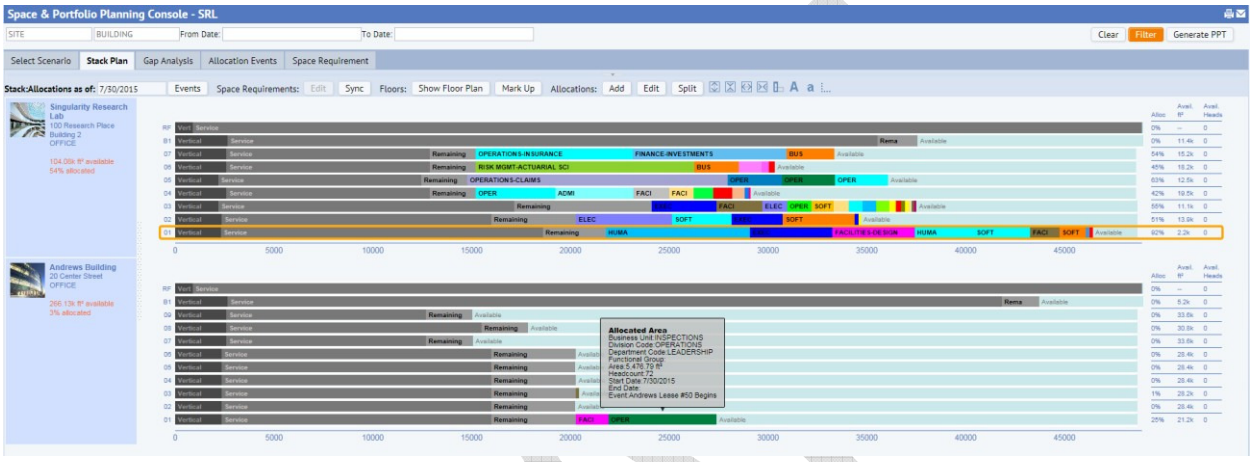


Business Events

The console associates each change with specific events -- such as a lease on an entire building ending, a new site being purchased, or another company that is being merged. This lets planners connect the graphical view to the business events and help stakeholders understand the impact of decisions and changes.

The Events panel acts as a time-machine view in the Space & Portfolio Planning Console. For instance, if you select the "2018 Lease Termination" event, the graphical stack and the calculations will change to reflect conditions after that vent.

Stack Planning



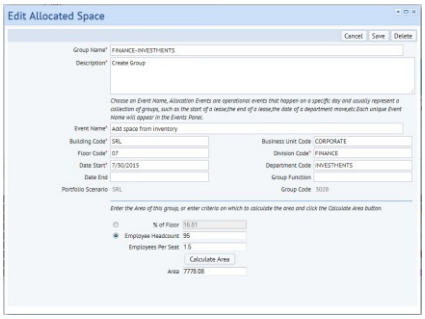
Planners can work with their building stacks interactively -- dragging and dropping business units, divisions, departments, or functional groups between floors or buildings. Statistics automatically show allocated and available area and available headcount as you work. You can rearrange and zoom the stack plans, yet the stack visualization will remain proportional to the true area, or identify over-allocated and under-allocated spaces or appropriately sized vacancies at a glance.

You can split these organizational groups at need. For functional groups, you can sync the stack plan with the detailed space requirements, making sure that the detailed list of functional groups and area stays up-to-date.

You can also add new buildings, floors, or leases as proposed available space within the scenario.

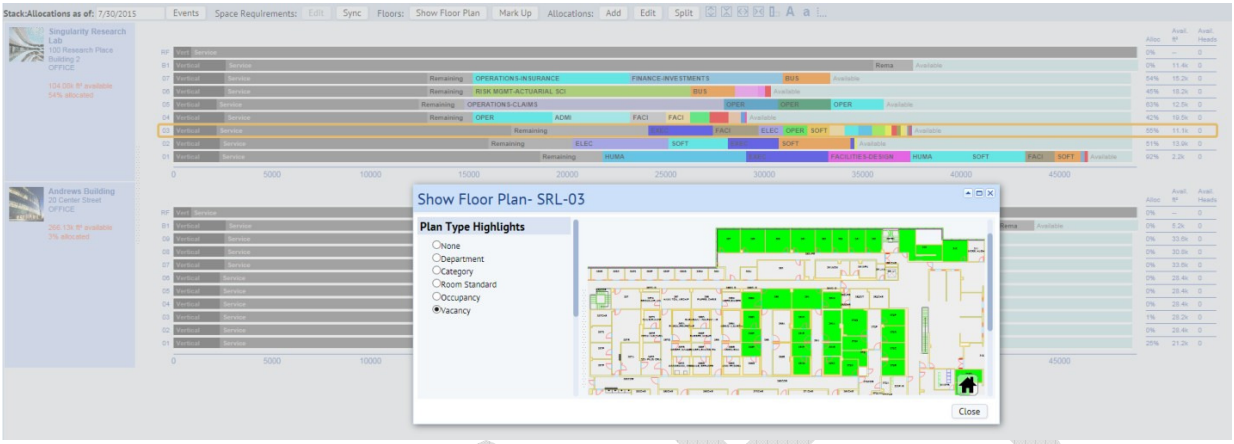
Alternative Workspace Scenarios

You can also edit organizational space assignments directly. The dialog lets you calculate area based on headcount or on a headcount proportion based on shared alternative workspace seating.



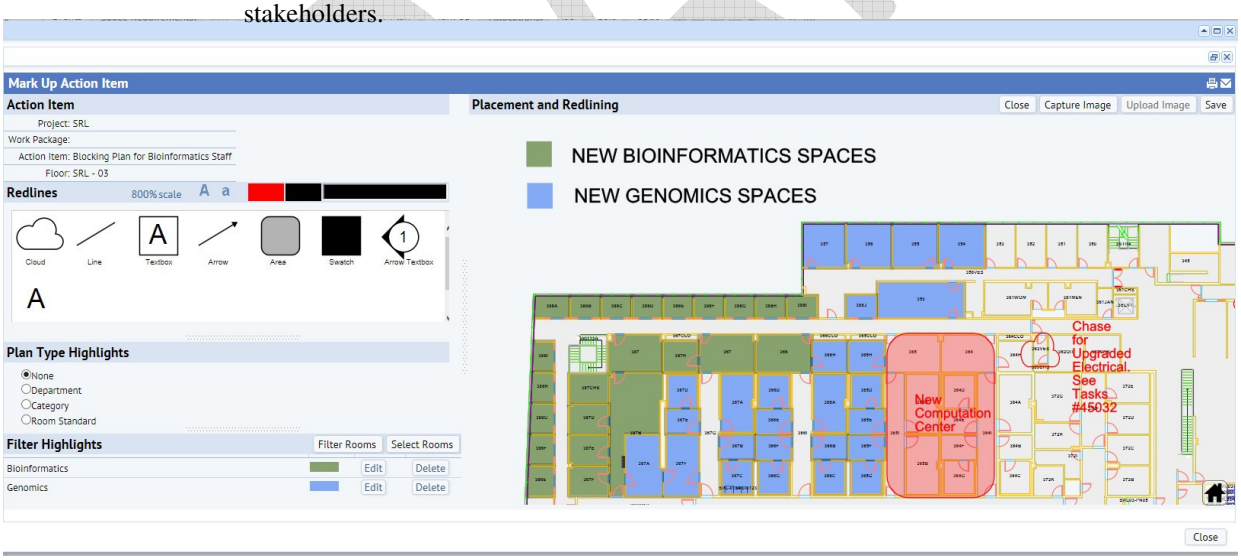
Tactical Details

Tool tips on each organizational group show the group and the duration of their allocation--that is, the date of the event before their occupancy and the date of the event that ends their occupancy of that space. Tool tips on available space let you know details of the building, floor or lease that provides the space.



Room Level Blocking

Before putting a detailed plan into motion, the planning staff will often plan occupancy down to the room level. The Space & Portfolio Planning Console lets you capture these assignment details in a manner that will appear on the project PowerPoint to be shared with stakeholders.



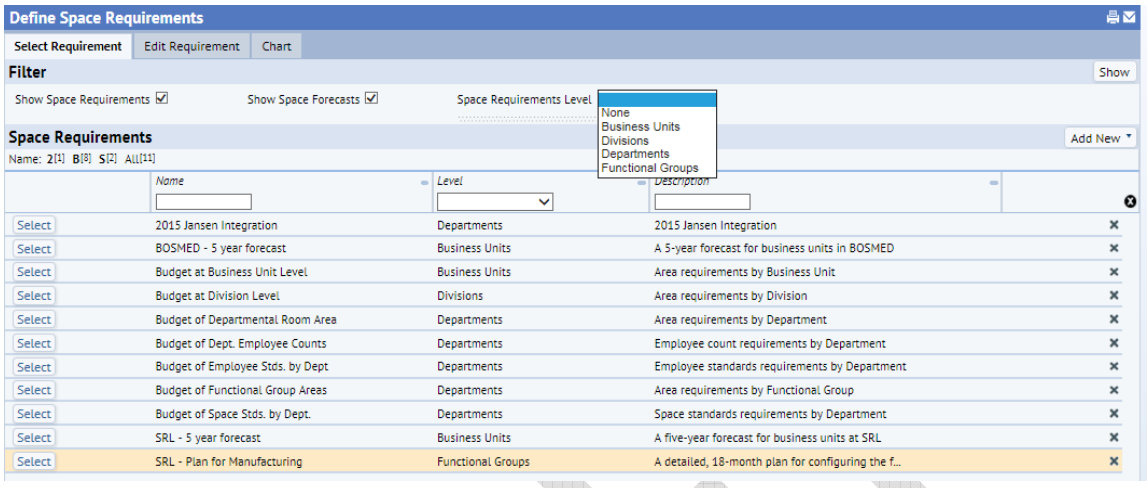
Business Requirements, Project Tasks and Markup

The console also lets you capture specific requirements for the project. These may be a room that must be demolished and reworked for a data center, an upgrade to the electrical system feeding the floor to accommodate a new robot testing lab, or physical or regulatory requirements, such as making certain that an MRI room specifies no item containing metal.

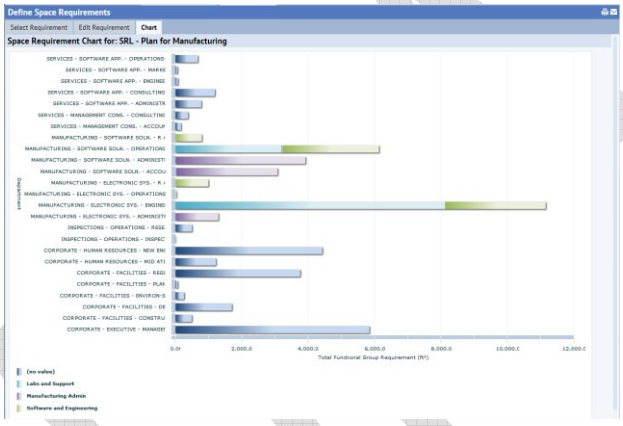
These tasks are connected directly to the project associated with the planning scenario. If the scenario is approved, all of these tasks flow directly to ARCHIBUS Project Management for responsibility assignment and execution.

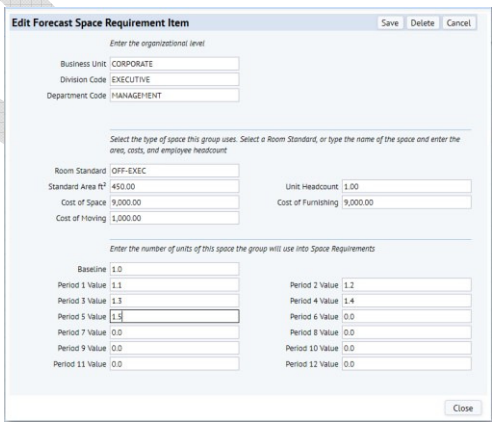
Space Requirements

Planners collect detailed requirements for any project. These can be the space requirements of the departments affected by an upcoming move. Alternately, these may be thespaceforecastofeachbusinessunitthattheplanningdepartmentupdatesasayearlyinitiative.



The application lets you collect these requirements in terms of areas, headcounts or schedule





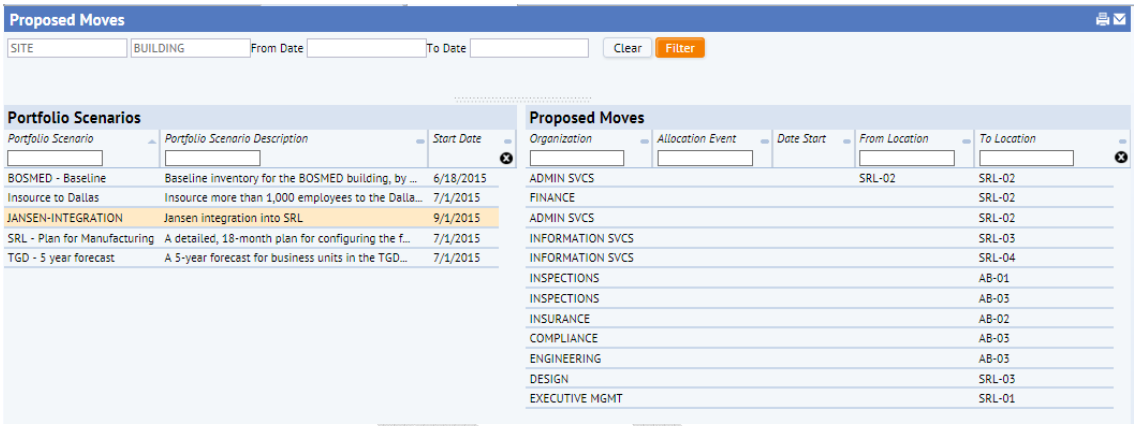
You can import any requirements definition or forecast into one or more planning scenarios.
If space needs are new requirements coming from a space forecast, they appear in the "Unallocated" building, from which you can drag-and-drop them onto available

Navigation Path

Real Estate Portfolio Management/Portfolio Forecasting/Portfolio Forecasting/Define Space Requirements

Group Move Integration

As you drag and drop each allocation is a group move -- either the move of an existing group or department or the fit-out and addition for a new group or department. The application records the list of moves that you propose for each timeframe that is related to a business event.



Navigation Path

Real Estate Portfolio Management/Portfolio Forecasting/Portfolio Forecasting/Proposed Moves

Parcels and Taxes

This release contains a complete set of features for managing your property taxes. The features closely monitor and manage tax costs, coordinate all actions on taxes and all tax details between stakeholders, and reduce the effort to comply with regulations.

With the parcels and taxes features you can:

- Ensure compliance with tax regulations and submissions deadlines to avoid significant penalties on missed payments.
- Forecast tax payments in order to include tax liabilities in your cash flow forecasts.
- Refer to ARCHIBUS as a central, searchable electronic repository for all tax records, elated expenditures, receipts and tax-authority contacts.
- Import and export tax records for governing bodies and independent accountants and auditors with the ARCHIBUS Data Transfer and Connect or features.
- Export tax information to third-party software to comply with regulatory reporting requirements.
- Use metrics on assessed values to identify properties that may benefit from a request for reassessment.

The features for managing taxes span the Portfolio Management, Cost Administration, and Cost Chargeback & Invoicing applications.

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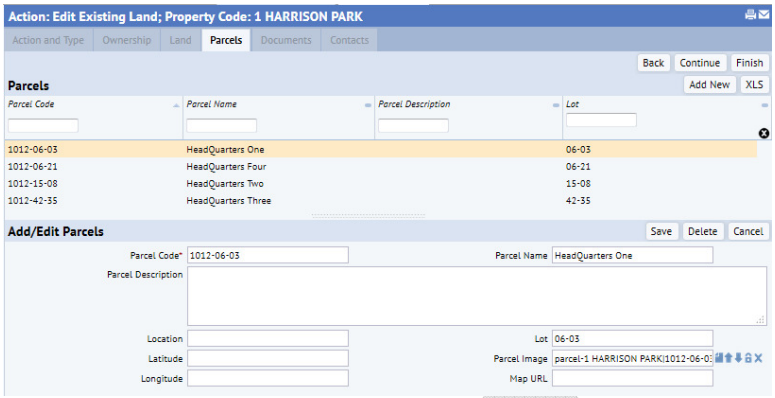
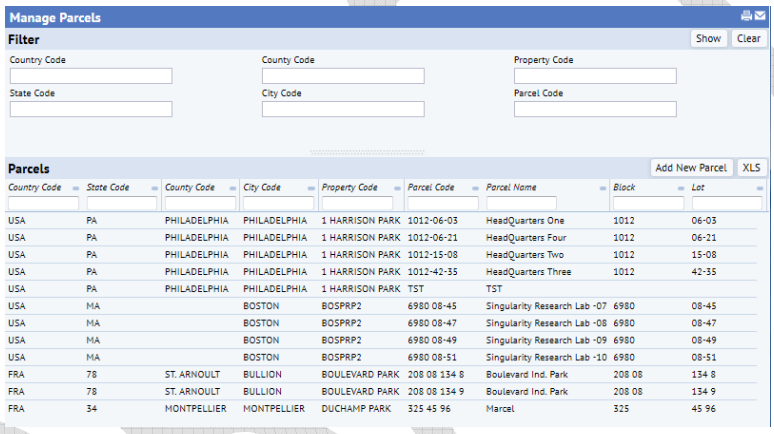
Portfolio Management



Add/Edit Wizard. This wizard now creates and tracks all tax-relevant aspects of parcels including the ability to assign Block Code, Lot Codes and County Code.

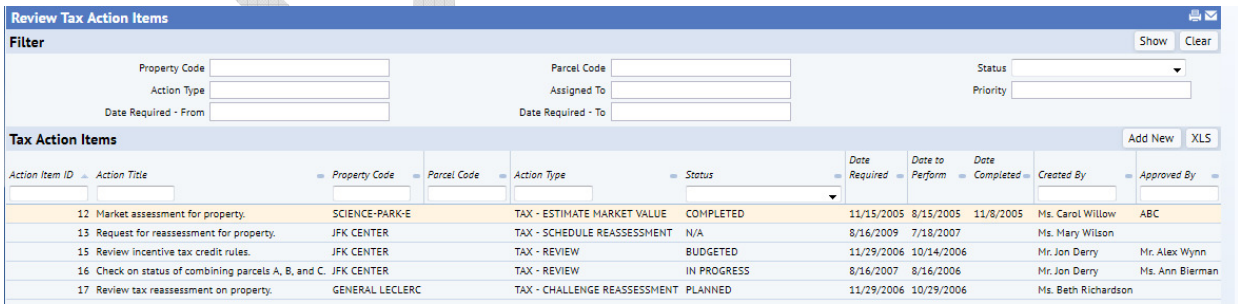
Cost Administration



Manage Parcels. This view now defines tax parcels and includes them within counties, states, and the full space hierarchy used for filtering and roll-up.

Navigation Path

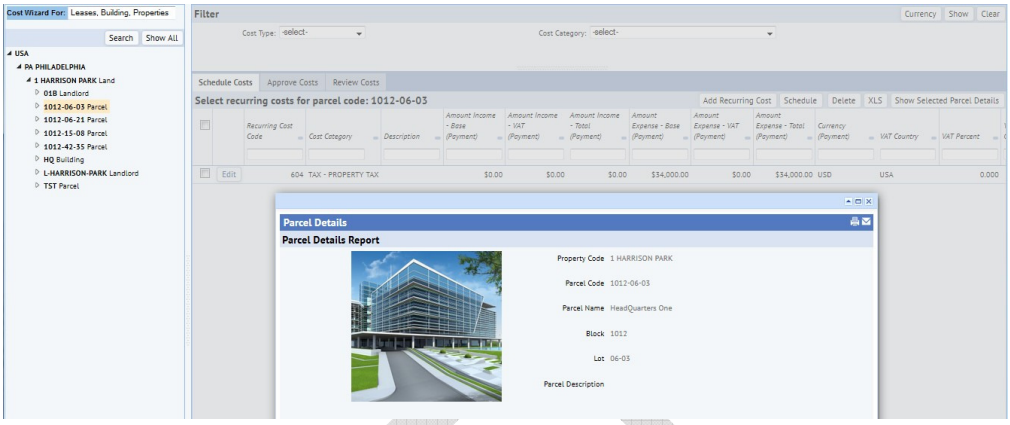
Real Estate Portfolio Management/Cost Administration/Business Process Owner/ Manage Parcels



Manage Tax Action Items. This view keeps on top of all required actions regarding taxes and the party responsible for them. Pinpoint taxes coming due, overdue taxes, or other actions that require immediate attention.

Navigation Path

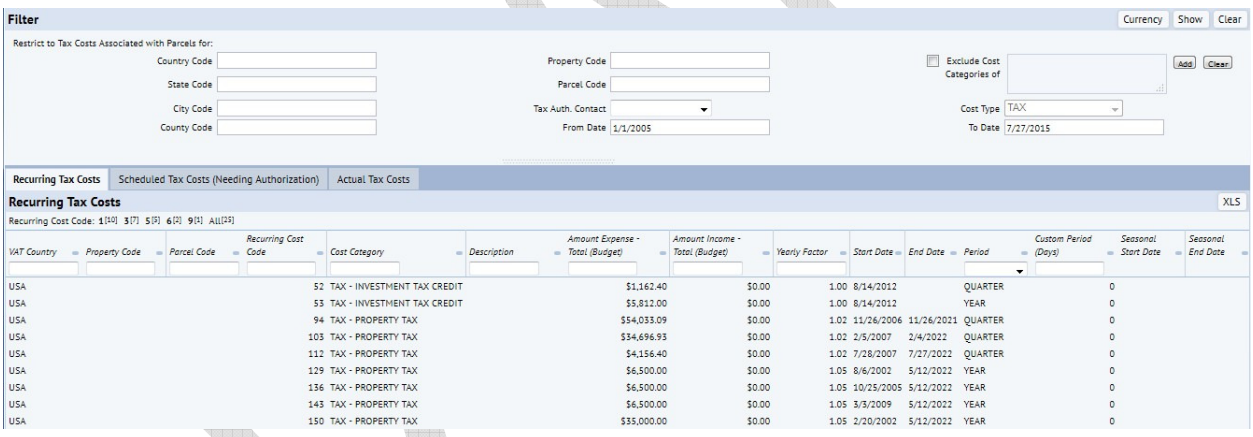
Real Estate Portfolio Management/Cost Administration/Cost Administrator/Manage Tax Action Items



Cost Wizard. The wizard now handles property taxes as an integral part of the property costs. Cost administrators can drill down into parcels and property tax costs as well as view and edit the fields of data specific to taxes.

Navigation Path

Real Estate Portfolio Management/Cost Administration/Cost Administrator/Leases, Buildings and Properties



View Tax Costs. This view manages all tax costs -- including recurring payments, payments
scheduled but not yet issued, and those that have been paid. It has filters tuned for inquiries into taxes, such as Tax Authority Contact and county code. Use the date filters to find

Navigation Path

Real Estate Portfolio Management/Cost Administration/Cost Administrator/View Tax Costs

Cost Charge back & Invoicing

Property owners and Lease Administrators can use the Chargeback Cost Wizard to charge tenants or internal departments for their share of the property tax expenses they incur, along with charges for other cost categories such as leasehold improvements, property maintenance, and security. The wizard will distribute costs to tenants in the proportion to the amount of space that each tenant occupies.

To use this feature, access the Chargeback Cost Wizard, include costs with cost category “TAX - PROPERTY TAX”, and show costs associated with “Properties”.

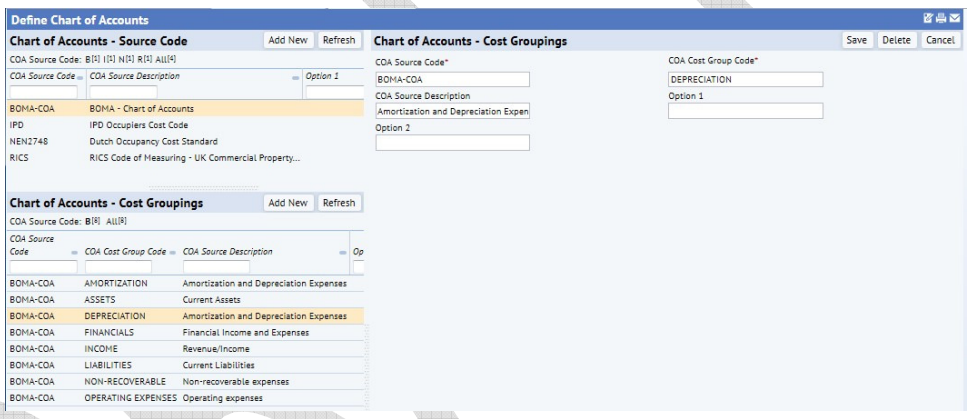
Navigation Path

Real Estate Portfolio Management/Cost Chargeback &Invoicing/Chargeback Administrator/Chargeback Cost Wizard

Chart of Accounts

The Cost Administration activity now includes additional features for flexibly mapping ARCHIBUS costs to your organization's Chart of Accounts using Source Codes and Cost Groupings. The account structure allows for both operating expenses (such as base rents of cost for snow removal) and capital expenses (such as assets costs, depreciation and amortization).

Both categories are used for evaluating cost performance of real estate when justifying investment in real estate and usage. Operating Expenses are typically used for statistics concerning the Total Cost of Occupancy. Operating plus Capital Expenses are typically used for determining the Total Cost of Ownership. By being able to categorize all costs, you can establish performance metrics that evaluate cost by employee, by seat, and by line of business.



The Chart of Accounts - Source Group organizes costs according to different systems of cataloging expenses prevalent in different parts of the world. The Chart of Accounts –Cost Group holds the group codes.

Navigation Path

Real Estate Portfolio Management/Cost Administration/Business Process Owner/Define Chart of Account Sources

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Account Code	COA Source Code	COA Cost Group Code	Account Description
60000	BOMA-COA	AMORTIZATION	Amortization
60100	BOMA-COA	AMORTIZATION	Leasing Commissions (lease >1 year)
60200	BOMA-COA	AMORTIZATION	Lease Buyouts
60300	BOMA-COA	AMORTIZATION	Rent Abatements
60400	BOMA-COA	AMORTIZATION	Other Leasing Costs
61000	BOMA-COA	DEPRECIATION	Depreciation
61100	BOMA-COA	DEPRECIATION	Building
61200	BOMA-COA	DEPRECIATION	Leasehold Improvements
61300	BOMA-COA	DEPRECIATION	Building Improvements
61400	BOMA-COA	DEPRECIATION	Tenant Improvements
61500	BOMA-COA	DEPRECIATION	Garage/Parking Lot Facilities
61700	BOMA-COA	DEPRECIATION	Office Equipment
61710	BOMA-COA	DEPRECIATION	Furniture
61720	BOMA-COA	DEPRECIATION	Computers
61800	BOMA-COA	DEPRECIATION	Artwork
61900	BOMA-COA	DEPRECIATION	Other
70000	BOMA-COA	FINANCIALS	Interest Income
71000	BOMA-COA	FINANCIALS	Interest Expense
72000	BOMA-COA	FINANCIALS	Ground Rent
73000	BOMA-COA	FINANCIALS	Provision for Bad Debts
74000	BOMA-COA	FINANCIALS	Income Tax Expenses
79000	BOMA-COA	FINANCIALS	Transfer/Closing Accounts

ARCHIBUS Account Codes map to the Source Groups and the Cost Groups letting you

Cost Transaction Summary by COA Cost Groupings

Cost Transaction Summary by COA Cost Groupings Refresh

		COA Cost Group Code						
COA Source Code		Total	AMORTIZATION	DEPRECIATION	FINANCIALS	INCOME	NON-RECOVERABLE	OPERATING EXPENSES
Total	Account Code - Count	22,652	1,704	1,485	1	125	1	19,336
	Amount - Income - Sum	$16,678,470.00	$0.00	$0.00	$2,000.00	$16,582,320.00	$200.00	$93,950.00
	Amount - Expense - Sum	$278,242,373.86	$55,947,962.90	$6,293,880.57	$0.00	$15,500.00	$4,400.00	$215,980,630.39
BOMA-COA	Account Code - Count	22,652	1,704	1,485	1	125	1	19,336
	Amount - Income - Sum	$16,678,470.00	$0.00	$0.00	$2,000.00	$16,582,320.00	$200.00	$93,950.00
	Amount - Expense - Sum	$278,242,373.86	$55,947,962.90	$6,293,880.57	$0.00	$15,500.00	$4,400.00	$215,980,630.39

Navigation Path

Real Estate Portfolio Management/Cost Administration/Business Process Owner/ Cost Transactions by COA Cost Groupings

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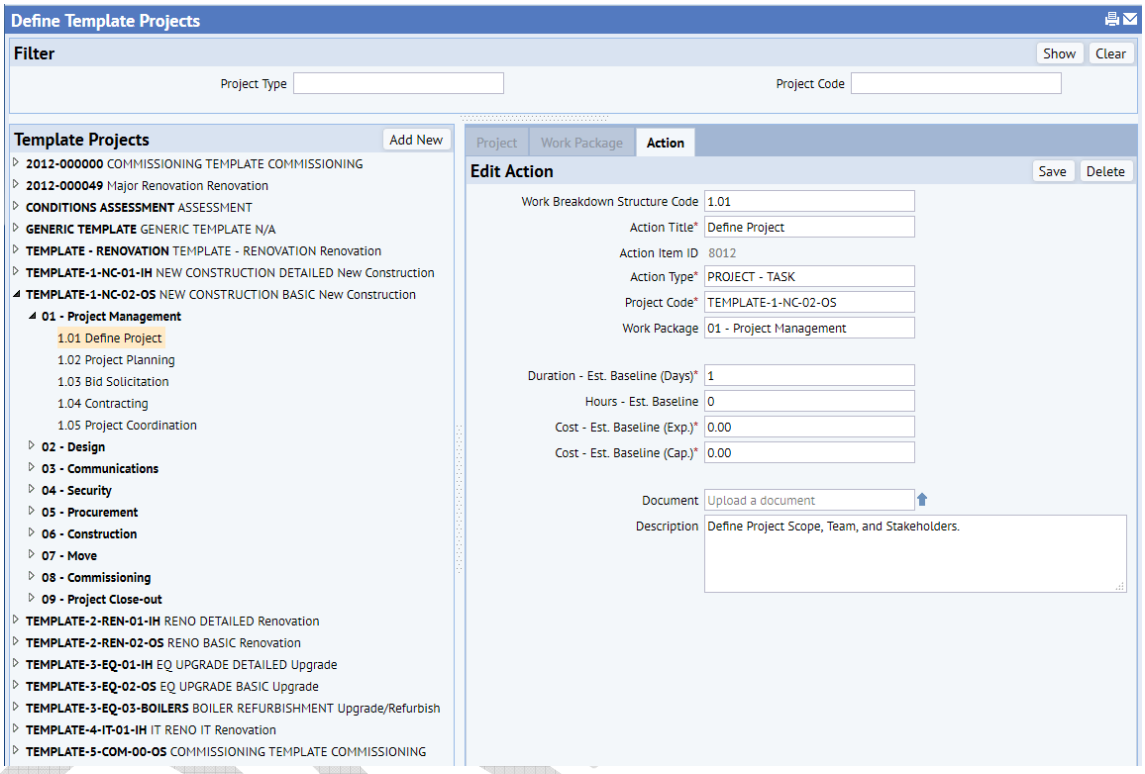
Capital Project Management

Project Management

New project templates for New Construction, Renovation, Equipment, IT Renovation, and Commissioning make it easy to set up a detailed work breakdown structure even for the most intricate project. The New Project action creates work package and tasks per the template automatically. You can them change, add and delete work packages and tasks to suit the needs of your particular projects.



Navigation Path

Capital Project Management/Project Management/Set Up/Define Template

Space Management

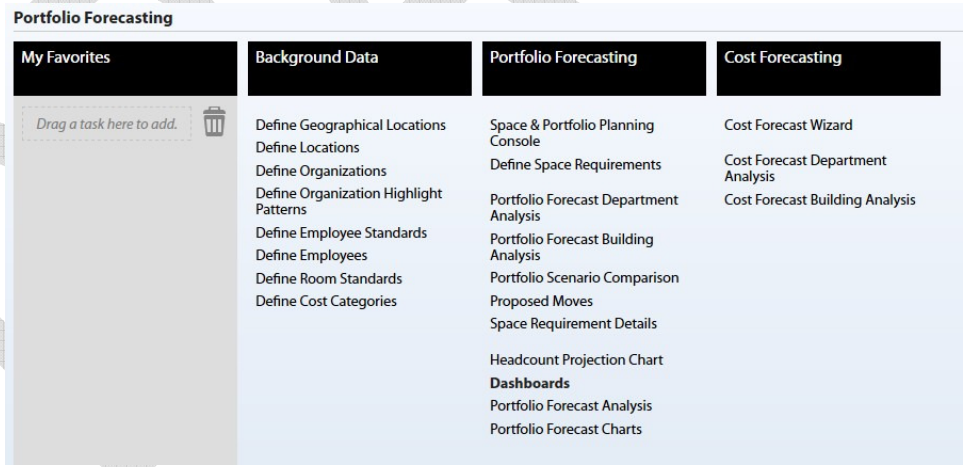
Strategic Space Planning (new Web Central application)

This is a new application for master planners performing space planning and forecasting. It is a subset of the Portfolio Forecasting features defined above, with a feature set tuned to building-scale planning rather than portfolio-scale planning.

The key structures and the Space & Portfolio Planning Console are the same, and you can share the same information and scenarios.

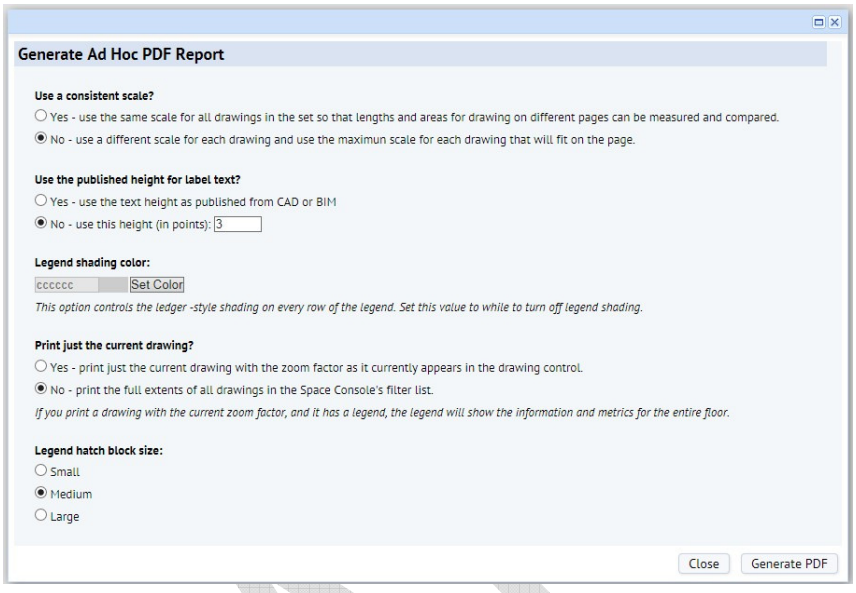
In addition to the space planning features, the Portfolio Planning Console additionally has:

- Department and Building Analyses and Head count Projections
  The Proposed Move view for reviewing group moves created by the Portfolio Planning
  Console
-



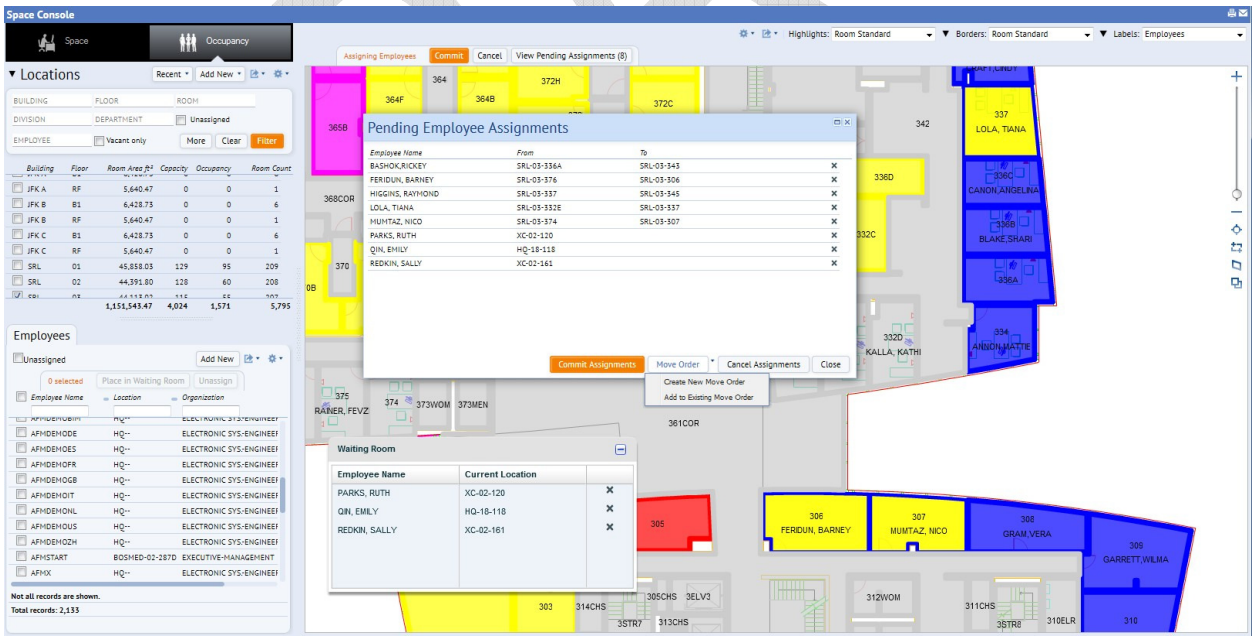
Space Inventory & Performance

Space Console-Printing Enhancements



The space console makes use of new printing enhancements added to V.22. Please see the summary of these enhancements in the "Platform" topic.

Space Console-Drag and Drop Move Integration



With the Occupancy panel of the Space Console, you can create new room assignments and moves by dragging and dropping employee symbols between rooms of a floor plan, between two floor plans, or from the "Waiting Room." In V.22, you can create move orders directly from these pending employee assignments.

The new Move Order action on the Space Console will create or update a group move order with the assignments. If you use this action, Space Console will not make the changes to the inventory directly. Instead, the Enterprise Move Management application will make the changes once the move order has been executed and closed.

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Asset Management

Asset Management (new Web Central application)

The ARCHIBUS Asset Management application provides for effective stewardship of assets through their full operational lifecycle -- from acceptance through operational use and disposal. The application provides a summary of your entire asset portfolio on the homepage, consoles to provide end-to-end asset management, and mobile apps to enable staff to quickly inventory your organization's asset base.

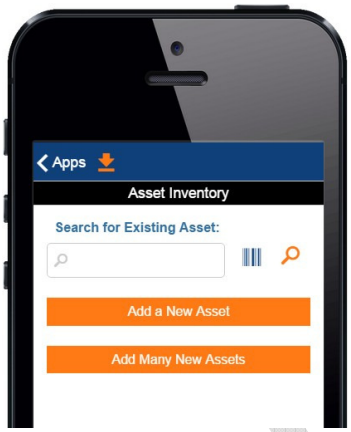
Rather than developing a lifecycle asset management product from a CMMS system, ARCHIBUS has designed Asset Management from the ground-up to handle not only equipment but also the entire range of corporate assets -- properties, buildings, structures, land, furniture and equipment. As a result of this intrinsic integration, ARCHIBUS is able to coordinate the work of all stakeholders and optimize end-to-end asset utilization to a degree that other products cannot match.

Visual Asset Management

True to the ARCHIBUS brand, the Asset Management application lets you integrate and visualize information about your facility in a manner that drives towards actionable business results. The application organizes the data among spatial lines -- forming a common operating picture for all staff to understand the interactions between their asset management decisions. The application also correlates even widely disparate data into top-level business intelligence. ARCHIBUS graphically presents the key performance indicators that measure alignment to strategy as well as the outliers and alerts that diagnose exactly which parts of your asset base are not performing to plan. Metrics, maps, alerts, and charts all support drill-downs to place supporting details and evidence at your fingertips.

Asset Registration Mobile App

This new mobile app scans and accepts assets singly or in bulk. It speeds the work of staff at the loading dock or shipping room accepting assets and the work of field staff registering new building equipment, such as escalators and boilers. With the app, your team avoids duplicate data entry as they can collect all relevant detail at the point of activity and they reduce errors as the app validates entries against the organization's asset and ownership hierarchies. The search for existing assets feature allows field personnel to reconcile existing assets when adding *ad hoc*, newly discovered assets.



Help Topic - Asset & Equipment Registration Mobile App

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#mobile/asset_receipt.htm

Navigation Path

You can use the browser emulation to review any of the ARCHIBUS Mobile Apps.

If you have ARCHIBUS installed locally, you can use the links below to load the browser emulator into your Google Chrome Web browser.

http://localhost:8080/archibus/schema/ab-products/common/mobile/views/tablet.htmhttp://localhost:8080/archibus/schema/ab-products/common/mobile/views/phone.htmhttp://localhost:8080/archibus/schema/ab-products/common/mobile/views/iphone.htm

Asset & Equipment Survey Mobile App

This app performs structured, checklist-driven asset surveys at any point in the asset life cycle. It can also record *ad hoc* observations on asset location, status, and ownership. With this information direct from the field you can deliver real-world intelligence on asset ownership, location, in use status, and disposition.

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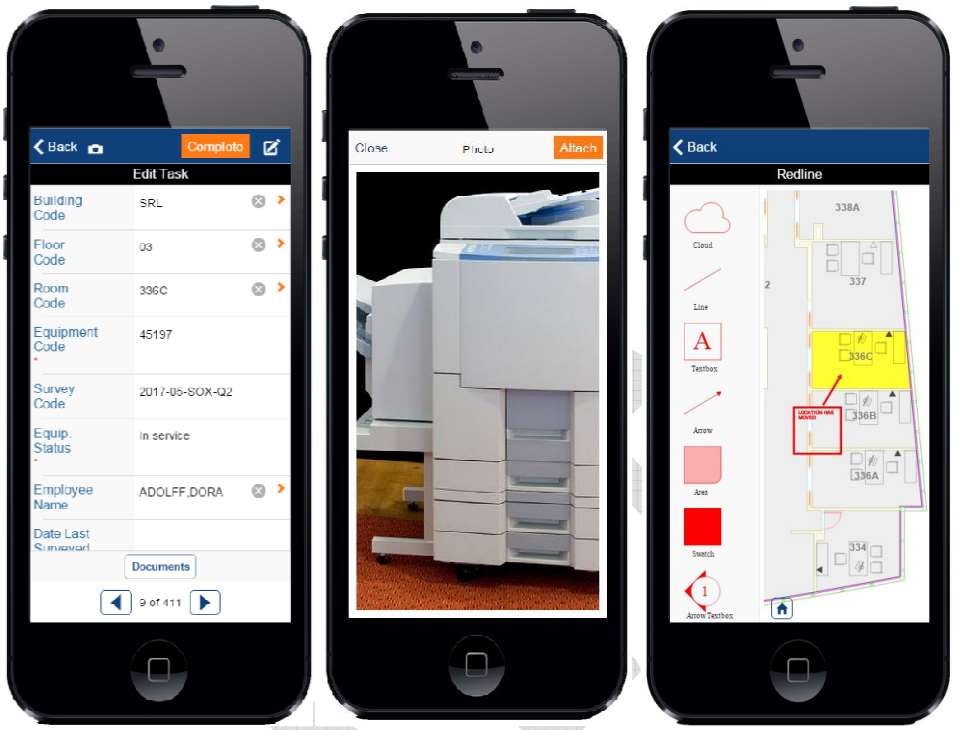
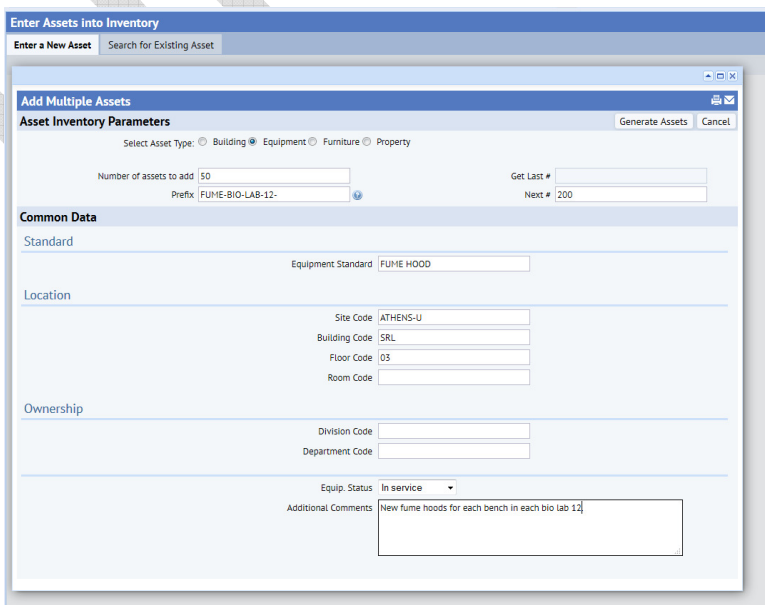


Help Topic - Asset & Equipment Survey Mobile App

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#mobile/eq_survey_mobile.htm

Asset Registration Console

This console speeds entry of assets into the registry. Wizard-style workflows reduce training and speed work. Decision trees guide the processes for small numbers of assets, large numbers of assets, or bulk entry of assets of the same type. Workflows for different types of assets -- such as properties, buildings, equipment and furniture -- ensure that you collect the appropriate validated information to register each type of asset. Features for barcodes, searching existing values, validating entries, and auto-numbering bulk assets to standard numbering conventions improve accuracy and consistency of the data.



Navigation Path

Asset Management/Asset Management /Asset Manager/Asset Registration Console

Help Topic - Asset Registration Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/asset_reg_console.htm

Help Topic - Using a Barcode Reader with the Asset Registration Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/concepts/bar_code.htm

Asset Registry Control Panel

Central Registry This panel presents a unified registry of assets, from which you can access information concerning any kind of asset -- property, building, land, structure, equipment, furniture -- in any stage of its lifecycle. Each type of asset has its own detailed processes and workflow within ARCHIBUS. For instance, you will likely use the Portfolio Management application to manage properties, buildings, structures and land. Or you might use the Extension for Revit to create equipment records from a BIM model and use the On Demand Work application to maintain the equipment. Regardless, you can use this single, central control panel to access and total information on assets of all types.

Editing the Registry You can also use this panel to resolve information discrepancies and expand asset information, as you may wish to do after a business event such as a merger or acquisition, in order to keep the asset registry complete.

Navigation Path

Asset Management/Asset Management /Asset Manager/Asset Lifecycle Console, then access the Asset Registry tab

Help Topic - Asset Registry Panel

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/asset_life_asset_reg.htm

Asset Lifecycle Console

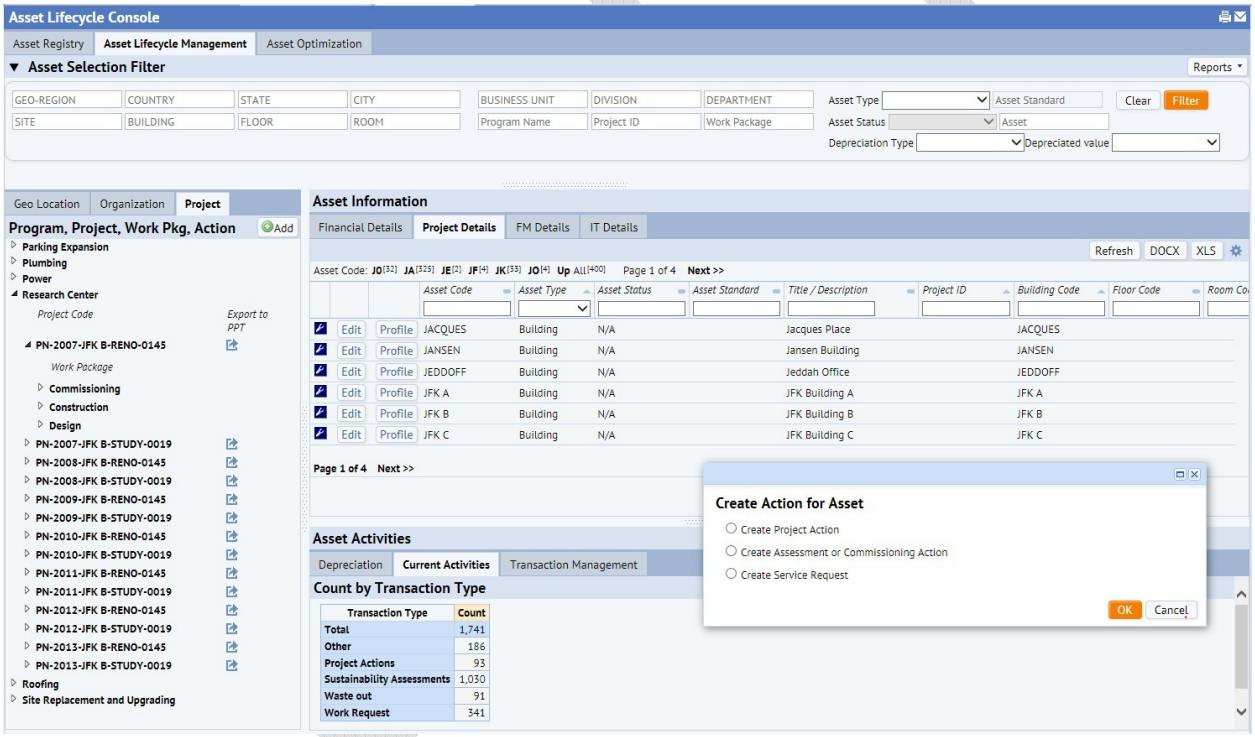
Lifecycle Management The asset hierarchies organize large asset inventories naturally by geography, organization, or project. Filters allow instant, fine-tuned access by a multiplicity

of properties, such as asset type, program, work package or depreciation type or value. Edit and workflow actions allow you to manage your assets throughout their lifecycles.

Stakeholder Coordination If you have the Enterprise Asset Management application, this on sole displays panels specific to finance, portfolio project managers, and IT as well as the information for facility and maintenance operations. These tabs allow each stakeholder focus on the portion of the asset information relevant to their particular role, yet still record all activity and asset detail in a single, central location. In this way, the console coordinates all stakeholders in one common operating picture. The planning staff can overview the information for all stakeholder processes in one place.

Transaction Overview You can also review all activity for assets -- whether a real estate ownership transaction, work request, move, condition assessment, sustainability assessment, mobile field survey, portfolio project task, or hazard remediation task. This over view gives you the operational context you need to be aware of when to repurpose, replace, or dispose of an asset.

Actions All team members can put their observations into direct action by creating work orders for projects, condition assessments, commissioning or services directly from the console.



Navigation Path

Asset Management/Asset Manager/Asset Lifecycle Console, then access the Asset Life cycle tab

Help Topic - Asset Lifecycle Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/asset_lifecycle_over.htm

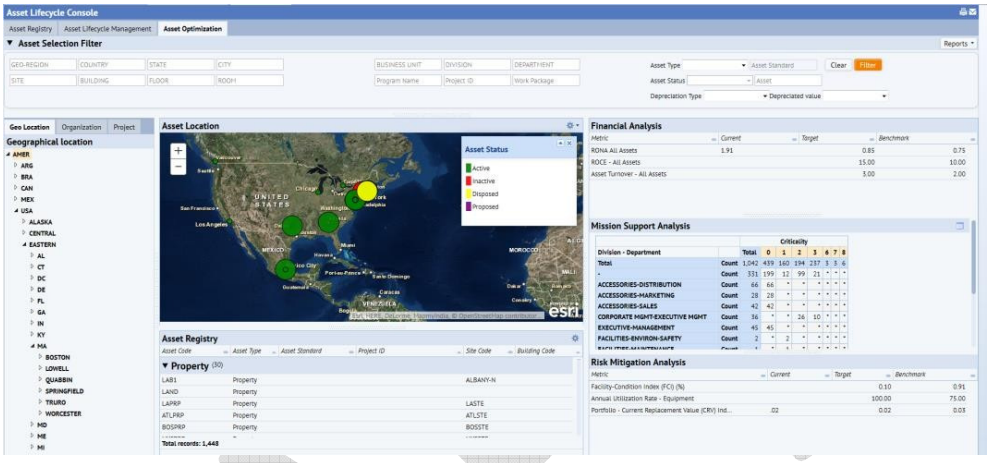
http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/asset_life_lc_tab.htm

Asset Optimization Control Panel

This panel reviews performance of assets in the registry to identify assets that are underutilized, underperforming, broken, inefficient, ineffective or at-risk for failure due to

Over - extended service. Select and analyze the asset based by location, organization or project. You can filter by a multiplicity of criteria, including depreciation type, business unit, or asset status.

Statistics for replacement value, depreciated value, market value and utilization let you make statistics-driven choices and identify sets of assets fit for reallocation, replacement and disposal. Statistics on the organization and size served relate the asset set to the size of the operation it supports.



Navigation Path

Asset Management/Asset Manager/Asset Lifecycle Console, then access the Asset Optimization tab

Help Topic – Optimizing Assets

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/asset_life_opt.htm

Asset Disposal Console

This console provides detailed analyses to find those groups of assets that are unused, underused, or a risk as they are past their productive life. The console presents all relevant information -- from cost and warranty information to recent transactions, work orders, and regulatory assessments. The console marks specific items for evaluation or for disposal and updates inventory to reflect, in the registry, assets that have mustered out.

Some items require evaluation before disposal, have decommissioning procedures, or contain hazardous materials -- such as radioactive materials within medical diagnostic equipment-- that must follow a formal "waste out" process. For these assets, the console creates project actions with specific steps and responsibilities for replacement, repurposing, donation ,sale, recycling or regulation-compliant disposal.

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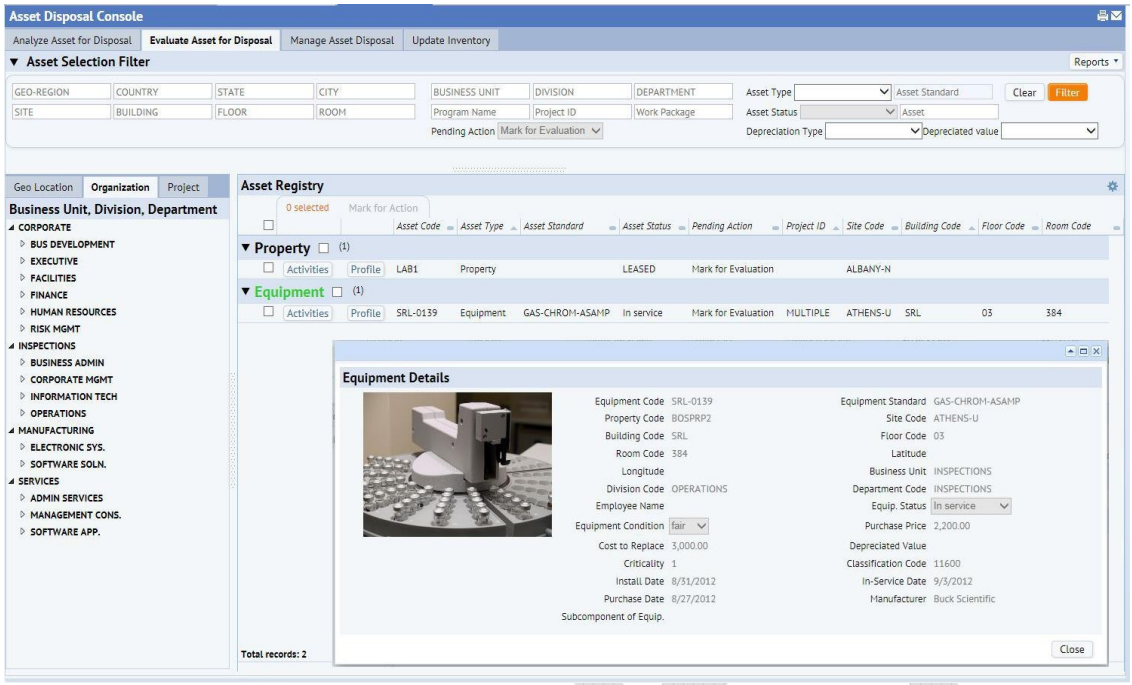

Navigation Path

Asset Management/Enterprise Asset Management/Facilities Asset Manager/Asset Disposal Console

Help Topic - Asset Disposal Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/asset_disposal_over.htm

Telecom Assets Console

This console provides purpose-designed support for IT processes that give the view of your physical telecom plant that network tools and "sniffers" cannot because it traces the physical cables and connections that are not themselves location-aware or are not currently connected to the network.

Use this console to review connections between workspaces and the equipment rooms that serve them to understand service configuration. Use integrated floor maps to graphically review server, network devices, equipment, jack and faceplate information. And use the integrated console of all equipment, network device, jack, and panel types to quickly explore the physical network without the need for site visits.

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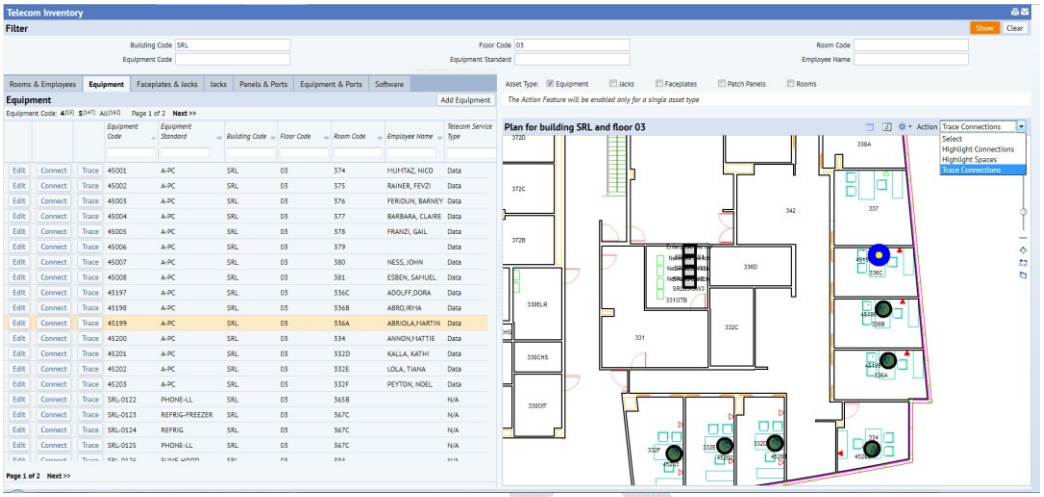

Navigation Path

Asset Management/Enterprise Asset Management/Facilities Asset Manager/Telecom Console

Help Topic - Telecom Assets Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/telecom/concepts_new/console_overview.htm

Building Operations Asset Inventory

The application contains all of the features needed to create the underlying asset inventory for On Demand Work and Preventive Maintenance. From initial asset registration of new equipment, to mobile surveys to identify and catalog existing items, to CAD features for visualizing locations, to BIM features to read equipment information from BIM models and publish it to the Web, ARCHIBUS has the complete end-to-end process for asset management.

Document Management

The application centralizes all documents that impact assets so that they are instantly at hand. Specifications from project managers; delivery receipts, invoices, transportation, and setup requirements; maintenance procedures and manuals, startup and shut down sequences, required operating parameters, condition assessment checklists, end of life analyses, inspection documents, compliance procedures and policies -- complex assets come with a panoply of documents, each one essential for efficient execution of asset processes and to maximize the value and lower the risk of ownership.

Log of Disposition History

The application automatically traces history of asset ownership, location, status, and value information to follow the chain of custody of each asset. This feature improves accountability and helps you meet policy reporting needs with an audit log that tracks every change, move, addition or deletion of all enterprise assets.

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Enterprise Asset Management (New Web Central Application)

ARCHIBUS Enterprise Asset Management is a holistic, end-to-end management system for assets. At the strategic level, ARCHIBUS provides intrinsic integration between strategic real estate planning, capital planning and portfolio project management to align all assets to mission objectives. At the operational level, ARCHIBUS communicates those objectives to all departments and optimizes performance throughout the asset lifecycle.

ARCHIBUS is a true ERP system designed to provide integrated management on the entirety of your assets -- buildings, properties, land, structures, equipment and furniture .Beyond typical CMMS systems, ARCHIBUS provides purpose-built, off-the-shelf processes for real estate, capital, asset and project planning. Not simply an ERP system acting alone, ARCHIBUS reconciles your real estate, financial, maintenance, IT and mobile data sources into a single, dependable registry of all assets and their use.

Enterprise Asset Management provides a superset of the features available in the Asset Management application. That is, it provides all of the Asset Management features plus the additional features detailed below. ERP Connectors reconcile the different "gold standard" data sources within your ERP suite to give a single, consistent truth. Consoles provide end-to-end management of assets from conception through acquisition, operations and disposal.

Project Proposal Console

This console provides integrated management of capital asset proposals and projects and their associated spaces, work packages and tasks. At the macro level, the console manages proposed projects and scenarios to ensure that new capital asset purchases and reallocations align to the strategic plan.

The console can review statistics and costs on new vs. repurposed assets and spaces while evaluating proposals. The console compares similar projects, generates graphical images and markups, and can be used to produce a PowerPoint project summary including maps, floor plans, photos, project details and Gantts schedules.

Once you have approved projects, you can flow detailed work packages, tasks, specifications and documents directly into project execution with the ARCHIBUS Project Management application, to ensure smooth, lossless transfer of project requirements. You can coordinate department managers, capital planners, space planners, financial managers and asset managers in one coordinated common-operating picture for portfolio projects.

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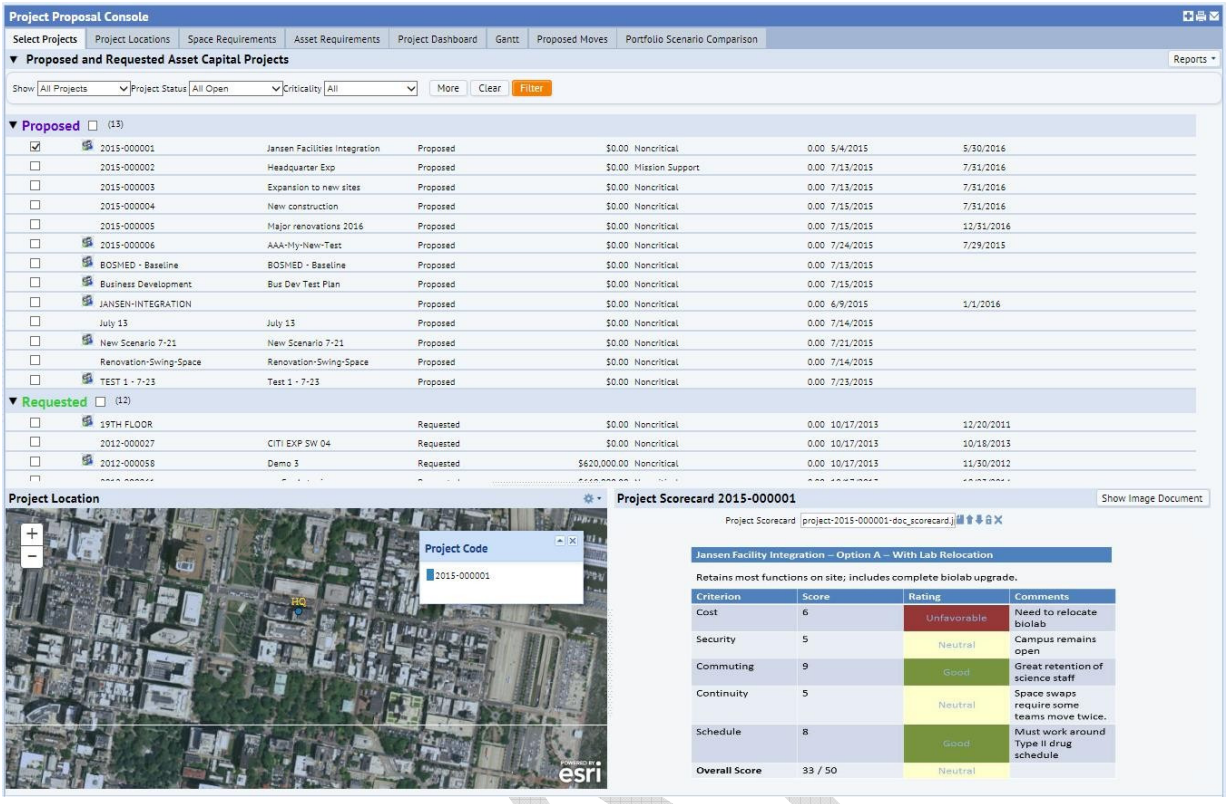

Navigation Path

Asset Management/Enterprise Asset Management/Facilities Asset Manager/Project Proposal Console

Help Topic - Project Proposal Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/proj_proposal_over.htm

Financial Reporting

The process provides visibility into lifecycle costs for budgeting and execution. With this process, financial professional scan:

- Perform lifecycle financial analysis on expensive and mission-critical assets to gain the true end-to-end cost of capital projects -- including shipping, installation, operationsd and disposal costs.
- Compare returns based on Return on Capital Employed (ROCE), Return on Net Assets (RONA), and Return on Assets to compare and justify different project scenarios.
- Evaluate scope and utilization using Property, Plants & Equipment (PP&E) Book Value, Fixed Asset Turnover, Annual Utilization Rate - Equipment, Portfolio and Building Current Replacement (CRV) Index, Asset O&M Costs for properties and buildings.
- Drill into any organization or their equipment to review depreciation information and all intelligence on that asset -- including moves, field surveys, work requests, and transactions all from one console.

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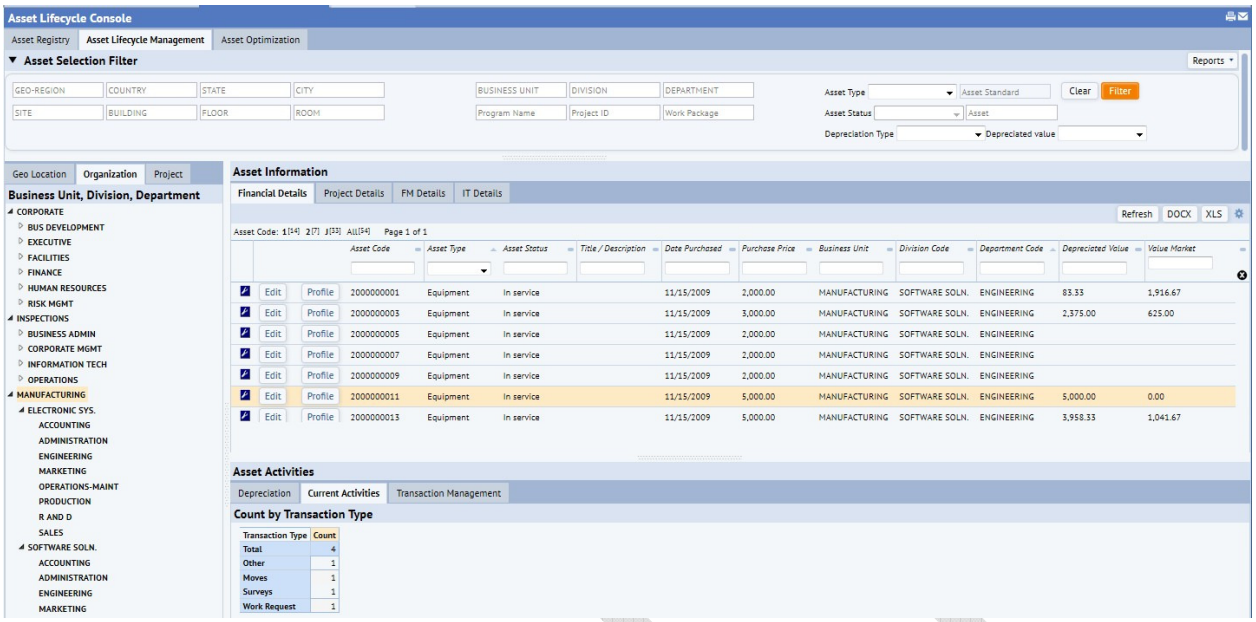

The benefits of operating this process are many:

- Improve accuracy of financial reports -- such as Sarbanes-Oxley, SEC, 10K and tax reporting -- using a registry that contains an accurate, field-verified and comprehensive list of all assets and their utilization.
- Better estimate profitability of each business unit by tracking asset ownership and in use status to calculate Return on Capital Employed, Return on Net Assets, and Gross Income to Capital Expense.
- Maximize tax savings through accurate depreciation deductions and save time performing the financial/accounting functions.
- Reduce the likelihood of overpayment of property taxes and insurance premiums based on improved asset tracking and valuation.
- Better rating of proposed capital projects through more accurate asset estimates to calculate NPV, ROI or RONA.
- Better preparation for business continuity and right-sizing your insurance costs with a detailed registry of assets and their criticality.
- Justify the write down of assets that are partially capitalized or that are unable to be located.
- Mitigate the risk of audits that would interrupt operations.

Help Topic - Finance Asset Manager

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/fin_asset_mgr_over.htm

Business Unit Asset Manager Process

With this process, business unit managers can reduce capital needs by knowing what assets--such as lab equipment, test equipment, medical devices -- in their business unit, are underutilized or unassigned. They can create asset plans for end-to-end specification proposal justification, and execution of purchase of new assets.

With this process they can:

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- Lower effort and increase success rate on capital projects -- such as lab reconfigurations, by tracking asset specifications, space requirements, electrical and structural and commissioning tasks all in one intuitive system.
- Reduce business risk by knowing which assets are business-critical and include them in your disaster recovery plan.
- Increase compliance and lower risk by tracking not just assets but the in operational requirements, such as regulations governing use, setup and calibration procedures, operator training, security, and maintenance procedures.

Help Topic - Department Asset Manager

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/dept_asset_mgr_over.htm

ERP Connectors

ARCHIBUS connectors automatically connect and correlate multiple "gold standard "sources of asset information -- such as finance, maintenance, and IT systems -- flag exceptions, and validate data to a consistent yardstick.

With the Connectors you can:

- Gain a rock-solid, 360-degree perspective of your assets that can align all departments and serve as the basis for reliable strategic planning.
- Report financial returns and utilization statistics with confidence.
- Reconcile ERP system information with the accurate utilization, custodian, and location information from ARCHIBUS and ARCHIBUS mobile apps to reconcile the official record with observed facts.
- Off-the-shelf connectors for SAP, Maximo and Oracle illustrate how you can reuse the existing wealth of information in your facility and enhance these ERP packages by using ARCHIBUS to analyze the information according to the strategic plan.

Asset Reconciliation Console

This console reconciles discrepancies between multiple primary sources of asset information.

With this console you can:

- Find discrepancies and mistaken categorizations that would otherwise lead to waste full spending or under-utilized assets.
- Find "ghost" assets, such as assets for which you are paying insurance but are not on the books.
- Feed errors and inconsistencies back to the source systems -- automatically or manually- to eliminate errors that may cause financial or operational reporting and analysis glitches.

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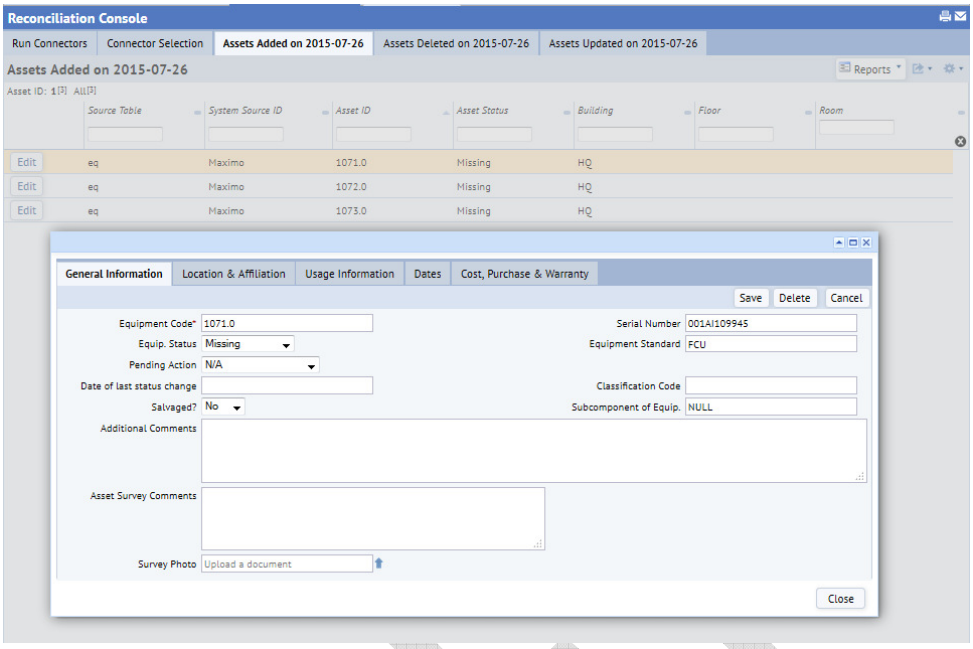

Navigation Path

Asset Management/Enterprise Asset Management/Facilities Asset Manager/Reconcile Enterprise Assets

Help Topic - Asset Reconciliation Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/asset_mngmt/EAM/asset_reconciliation.htm

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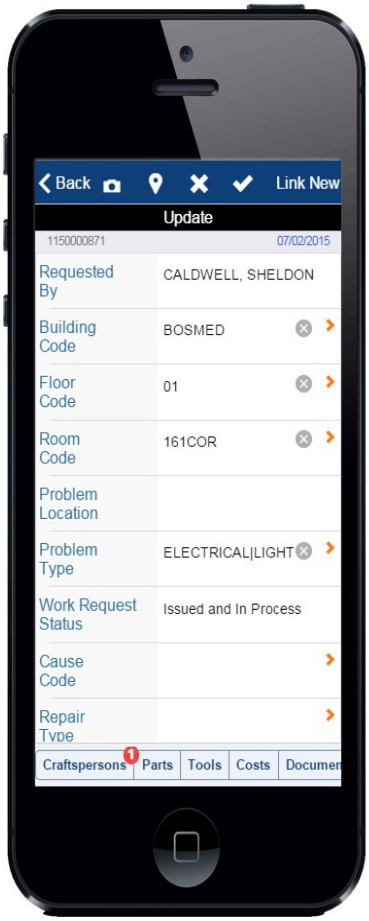
Building Operations

On Demand Work

Workflow Flexibility

This release contains extensive changes in the flexibility of workflow. These changes make work more efficient by reducing duplicate requests, by lessening the number of steps needed to reroute work, and by providing greater communication and visibility between staff members. The changes also maintain greater continuity for work requests, allowing each member of the team to use and build on the previous staffer's information.

These changes increase operational efficiency, as requests can be cross-routed directly to the right team. Changes are easier to make and history easier to keep, meaning you will have the complete work history that will make your team more productive with increased accountability for results. Overall reporting more accurately reflects reality, since the underlying data in the requests is better.



Returning Issued Work. A craftsperson can often gain more information on requests while in the field. An electrician may find a light does not work due to a plumbing leak. Or they may find that equipment is in a different location or is of a different model than reported. In this case, the craftsperson can edit the request in the field and return the work. The system re-submits the returned work and re evaluates its SLA so that it can be routed to the correct approval process, work team, and craftsperson appropriate for the job. All parts, resources used and hours logged by the original craftsperson remain with the request. Supervisors and call center personnel can also return work.

Sustaining Rejected Requests. If an approver rejects a request using the Building Operations Console, the system will now sustain it. In this way, requestors can add detail to a request and resubmit it, and estimators and schedulers can also revise their earlier work. This process is more efficient than having to close a rejected work request and have the client resubmit a new one.

Reissuing Completed Request. Occasionally, a maintenance organization must return to work that is incomplete or incorrect. In this case, you can re-issue a work request that is already completed. Doing so preserves all of the information in the original work request so that the history and details are preserved. This continuity leads to a more efficient workflow and review process.

Create and Link New Request. When working on one issue, for instance repairing a hole in drywall, a craftsperson may realize that another related work order is needed, such as painting the newly laid plaster. You can now create a new work request while working on the current request. The new request will go through the usual request routing. The new request will have a link to the original request, with which the craftsperson can view the original request for reference. Service desk managers can also create new requests lined to a closed request.

Rescind a Work Request. Supervisors can now rescind a work request that they feel has incomplete or incorrect information, that is not assigned to the correct crafts person, or what they wish to reschedule for work leveling. Supervisors can alter the details of the work request, including work team, location and trade. The system will reroute the request based on the SLA definitions when the supervisor resubmits their quest.

Changing SLA Workflow Parameters

Can Change Work Request Setting. The Craftsperson table now has another setting to determine if that craftsperson or supervisor can change work request parameters after are quest has been submitted. If set to Yes, that staffer will be able to change the Problem Type, Problem Location, Description, Location, Equipment, Priority, Division Code, and Department Code fields.

Enforce New Workflow Setting. The Helpdesk SLA Response table has a new enforce_ new workflow field which controls how the system routes a request if the workflow request parameters change. If this value is Yes , the system will return the work request to the Requested status, and follow the new SLA from the beginning. If this value is No, the system will continue with the new SLA from the current step forward.

The work request follows the service level of the new SLA. The system will escalate the request according to the original date and time of the request. The request might be immediately escalated if the new response and completion times are shorter. It might be de-escalated if the response and completion times are longer.

Scheduled Immediately Setting. If an SLA contains a Craftsperson Code, the SLA can now make use of a new Schedule Immediately setting. This setting schedules the work to the craftsperson immediately when the work request is created so that work can begin immediately. Previously, work was dispatched the next available service day.

Editing Work Request Parameters

If they have permission granted by the "Can Change Work Request" setting, several roles can edit work request parameters, effectively changing the workflow of a request on the fly.

Approvers can change the work request parameters for work requests in the Requested state and, in effect, change the SLA that governs the request.

Supervisors have access to all requests dispatched to themselves and their work teams. In this way, the supervisor can correct errors, such as incorrect Problem Types. The supervisor can alter work request parameters until a request is in the Completed or Closed state.

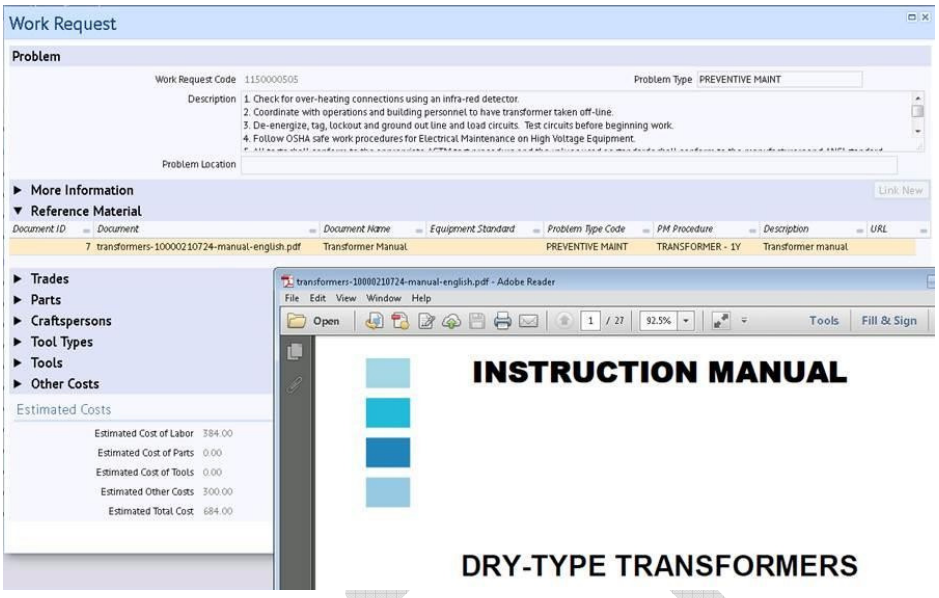
Craftsperson can change the work request parameters for requests assigned to them.

After the work request parameters are changed, the request will follow the workflow of the new SLA, in the manner dictated by the Enforce New Workflow setting above. If the staffer makes the change on a mobile device, the new SLA and workflow will be enforced when the staffer syncs their mobile device.

Other Enhancements

Assigned Documents From the Building Operations Console, you could always view the documents uploaded to the Work Request itself. However, you can now view any document linked to the work request. Any document or URL that is linked via the Assigned Documents feature to the Equipment Standard, PM Procedure or Problem Type is now available directly within the Work Request form.

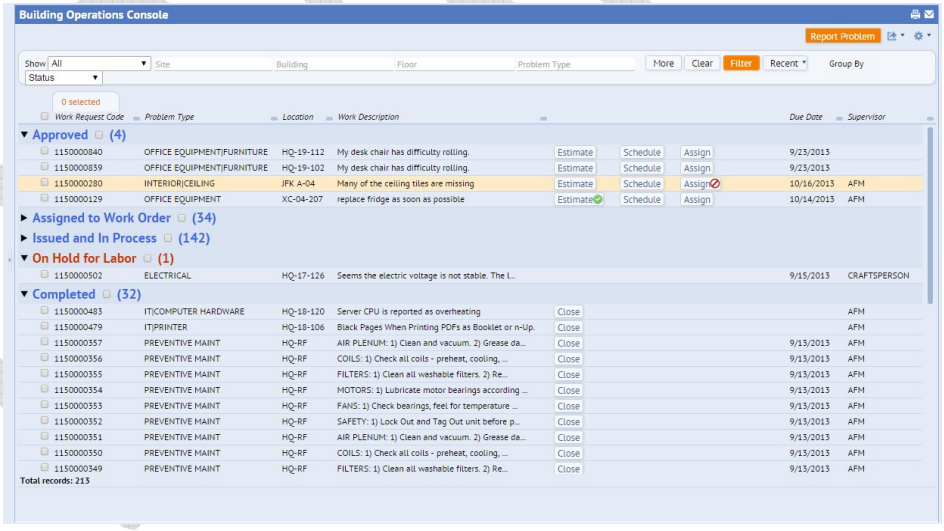
DRAFT



Splitting SLA Groups The SLA Summary form now has a feature for splitting SLA Groups, which gives each group its own unique grouping number.

Super User Role You can now create "super users," users who have access to all work requests, open or closed, regardless of the supervisors and work teams to which those request are assigned.

Building Operations Console - Improved Performance



The Building Operations Console provides a single, central control panel for man aging virtually all work orders and work requests in an organization. With its popularity comes high-volume use, and some sites will have many thousands of items in the console a onetime.

For this reason, the On Demand Work application adds a series of application preferences:

- **Bldg Ops Console Expand On Open**. Controls whether the Building Operations Console opens with its category bands expanded (slower) or collapsed (faster).

- **Bldg Ops Console Load Data On Open**. Controls whether or not the console immediately loads Work Requests when opened (slower) or instead waits for the Filter button to be pressed (faster, as only the requests that match the filter are displayed).
- **Bldg Ops Console Load Pending Steps**. Controls whether the console immediately loads Work Requests that contain pending steps to complete. You can always load Work Request with pending steps later using the "Pending Steps" control on the Filter command.
- **Bldg Ops Console Max Requests Per Band**. Indicates the maximum number of work requests the system will initially display per category band. If the number is less than the total number of work requests in that band, the console presents an action to view the next group.

There are several other performance improvements:

- **Filter Default**. The console also remembers your Filter selection between in vocations. For instance, if you select “10 Newest Requests”, and later re-load the console, the“10Newest Requests” selection will be the initial default, and the system will load onlythe10 newest requests.
- **Progress Bars**. Actions that can advance groups of request statuses, such as the Issue action, now have progress bars.
- **Step Log**. Now the helpdesk step log table is indexed in the default database and a new automatic archive on this table keeps it small.

One final note: the console shows only those requests that are appropriate for each role –such as supervisors and crafts persons -- and work team. If your work queues are getting long, you may wish to review your work assignments and workflow.

Navigation Path

System Administration/ARCHIBUS System Administration/ARCHIBUS Administrator-Application Configuration/Configure Application Parameters

If you want to add the helpdesk step log to an existing database, please see:

\schema\ab-products\common\sqlviews\schemawiz-re-create-bldgsops-indexes-*.sql

DRAFT

Environmental & Risk Management

Energy Management

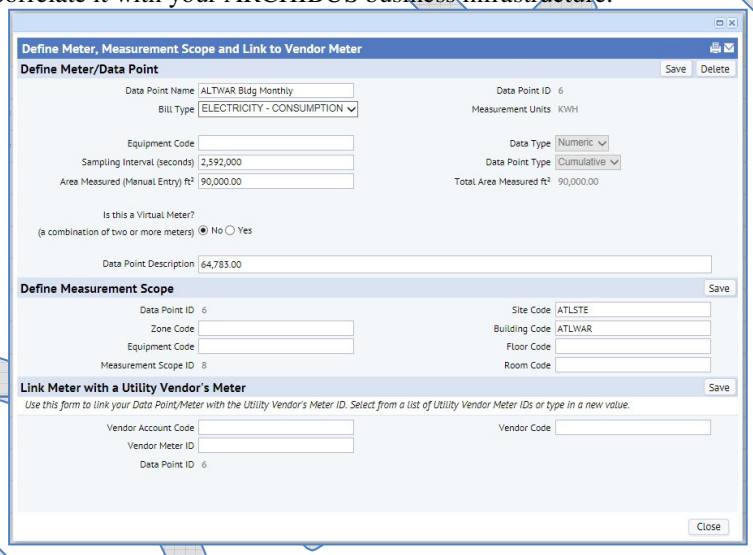
From Raw Data to Business Intelligence

An increasing number of facilities have BAS systems that monitor energy usage or are installing meters and sub-meters at the building level in order to achieve savings and satisfy regulatory mandates.

However, alone, neither the energy usage information from your BAS system nor the billing information from your utility provides the intelligence you need to find billing errors and identify opportunities for improvement in your energy usage. Furthermore, different systems, meters, and vendors complicate the equation.

The ARCHIBUS Energy Management application uses the ARCHIBUS centralized enterprise information model to correlate building information, meter information, and billing information to distill it into actionable business results.

Beneath the energy management information, you will find a generalized data infrastructure, one that can use the ARCHIBUS Connectors to collect sensor data from the Internet of Things and correlate it with your ARCHIBUS business infrastructure.



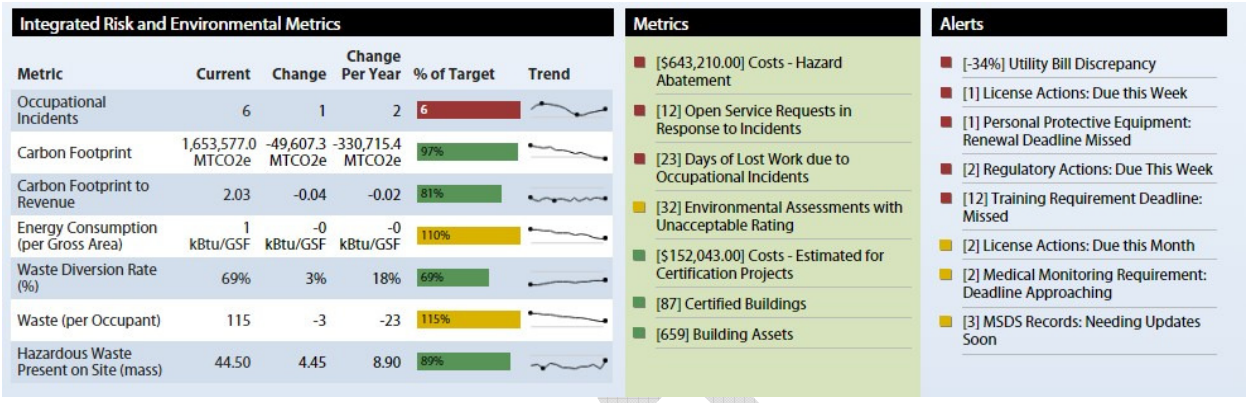
The future arrives one piece at a time, and you should not be concerned if you do not have complete automatic metering or data feeds. You can use automatic feeds, manual surveys of your meters, or any mixture to collect the information you need for functions like bill error detection and utility cost proration.

Bill Error Detection

With energy being a large component of facility operations costs, tools to review the tide so futility invoices and building automation system feeds are now essential to any organization. Utility bill errors are common, extremely costly, and often go unnoticed for years. It is not unusual for organizations to see a 1% savings on their entire energy bill after they de ploy a bill error detection solution.

For this reason, ARCHIBUS contains an automatic analysis that warns of overpay mentor underpayment by comparing utility bill data to data on actual metered usage. This alert uses the Utility Bill Discrepancy metric, which runs automatically every day to find discrepancies in billed versus measured demand and billed versus measured consumption. A discrepancy

greater than 5% is tagged with a yellow alert, a discrepancy greater than 15% with red. You can adjust these thresholds in the Define Metrics form.



Integrated Risk and Environmental Metrics

Metric	Current	Change	Change Per Year	% of Target	Trend
Occupational Incidents	6	1	2	6	
Carbon Footprint	1,653,577.0 MTCO2e	-49,607.3 MTCO2e	-330,715.4 MTCO2e	97%	
Carbon Footprint to Revenue	2.03	-0.04	-0.02	81%	
Energy Consumption (per Gross Area)	1 kBtu/GSF	-0 kBtu/GSF	-0 kBtu/GSF	110%	
Waste Diversion Rate (%)	69%	3%	18%	69%	
Waste (per Occupant)	115	-3	-23	115%	
Hazardous Waste Present on Site (mass)	44.50	4.45	8.90	89%	

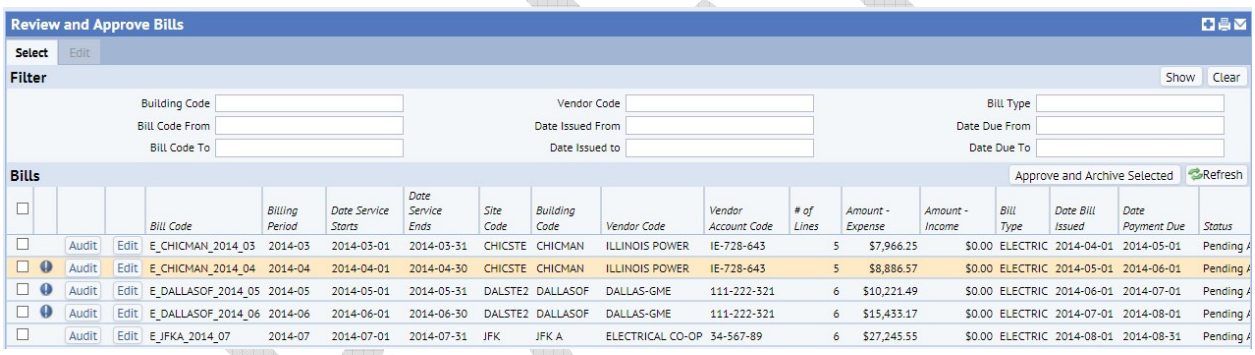
Metrics

- [$643,210.00] Costs - Hazard Abatement
- [12] Open Service Requests in Response to Incidents
- [23] Days of Lost Work due to Occupational Incidents
- [32] Environmental Assessments with Unacceptable Rating
- [$152,043.00] Costs - Estimated for Certification Projects
- [87] Certified Buildings
- [659] Building Assets

Alerts

- [-34%] Utility Bill Discrepancy
- [1] License Actions: Due this Week
- [1] Personal Protective Equipment: Renewal Deadline Missed
- [2] Regulatory Actions: Due This Week
- [12] Training Requirement Deadline: Missed
- [2] License Actions: Due this Month
- [2] Medical Monitoring Requirement: Deadline Approaching
- [3] MSDS Records: Needing Updates Soon

Flagging Errors In order to make you aware of which bills are problematic, the Review and
Approve Bills form places an alert icon next to every pending bill that has a discrepancy



Review and Approve Bills

Select | Edit

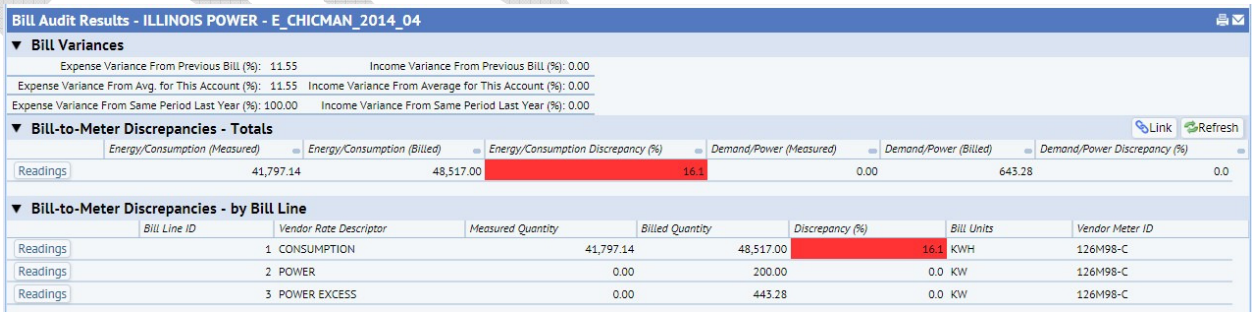
Filter — Show | Clear

Building Code | Vendor Code | Bill Type
Bill Code From | Date Issued From | Date Due From
Bill Code To | Date Issued to | Date Due To

Bills — Approve and Archive Selected | Refresh

			Bill Code	Billing Period	Date Service Starts	Date Service Ends	Site Code	Building Code	Vendor Code	Vendor Account Code	# of Lines	Amount - Expense	Amount - Income	Bill Type	Date Bill Issued	Date Payment Due	Status
	Audit	Edit	E_CHICMAN_2014_03	2014-03	2014-03-01	2014-03-31	CHICSTE	CHICMAN	ILLINOIS POWER	IE-728-643	5	$7,966.25	$0.00	ELECTRIC	2014-04-01	2014-05-01	Pending A
	Audit	Edit	E_CHICMAN_2014_04	2014-04	2014-04-01	2014-04-30	CHICSTE	CHICMAN	ILLINOIS POWER	IE-728-643	5	$8,886.57	$0.00	ELECTRIC	2014-05-01	2014-06-01	Pending A
	Audit	Edit	E_DALLASOF_2014_05	2014-05	2014-05-01	2014-05-31	DALSTE2	DALLASOF	DALLAS-GME	111-222-321	6	$10,221.49	$0.00	ELECTRIC	2014-06-01	2014-07-01	Pending A
	Audit	Edit	E_DALLASOF_2014_06	2014-06	2014-06-01	2014-06-30	DALSTE2	DALLASOF	DALLAS-GME	111-222-321	6	$15,433.17	$0.00	ELECTRIC	2014-07-01	2014-08-01	Pending A
	Audit	Edit	E_JFKA_2014_07	2014-07	2014-07-01	2014-07-31	JFK	JFK A	ELECTRICAL CO-OP	34-567-89	6	$27,245.55	$0.00	ELECTRIC	2014-08-01	2014-08-31	Pending A

Inspecting Outliers. Clicking on the Bill Audit feature presents the comparison with the



Bill Audit Results - ILLINOIS POWER - E_CHICMAN_2014_04

Bill Variances

Expense Variance From Previous Bill (%): 11.55 — Income Variance From Previous Bill (%): 0.00
Expense Variance From Avg. for This Account (%): 11.55 — Income Variance From Average for This Account (%): 0.00
Expense Variance From Same Period Last Year (%): 100.00 — Income Variance From Same Period Last Year (%): 0.00

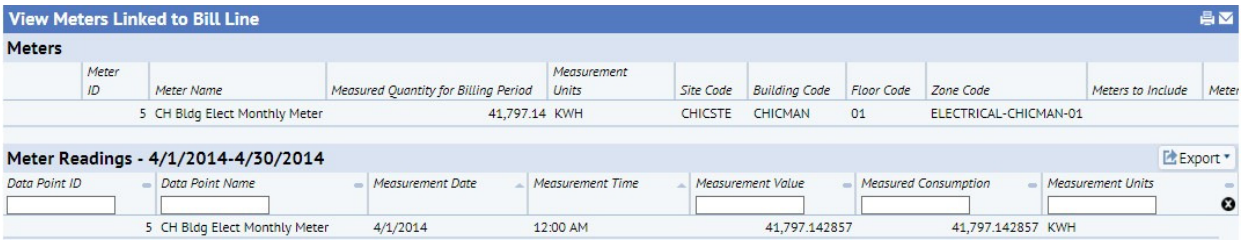
Bill-to-Meter Discrepancies - Totals — Link | Refresh

	Energy/Consumption (Measured)	Energy/Consumption (Billed)	Energy/Consumption Discrepancy (%)	Demand/Power (Measured)	Demand/Power (Billed)	Demand/Power Discrepancy (%)
Readings	41,797.14	48,517.00	16.1	0.00	643.28	0.0

Bill-to-Meter Discrepancies - by Bill Line

	Bill Line ID	Vendor Rate Descriptor	Measured Quantity	Billed Quantity	Discrepancy (%)	Bill Units	Vendor Meter ID
Readings	1	CONSUMPTION	41,797.14	48,517.00	16.1	KWH	126M98-C
Readings	2	POWER	0.00	200.00	0.0	KW	126M98-C
Readings	3	POWER EXCESS	0.00	443.28	0.0	KW	126M98-C

Drilling Down to Hard Evidence You can use the Readings button to drill into the exact meter or sensor that provided the measured data so you can review the cause of the discrepancy and provide evidence to contest the utility bill.



The meter definition in ARCHIBUS records the vendor with which each meter is associated. This lets ARCHIBUS automatically correlate all bill line items from that vendor with that meter for comparison.

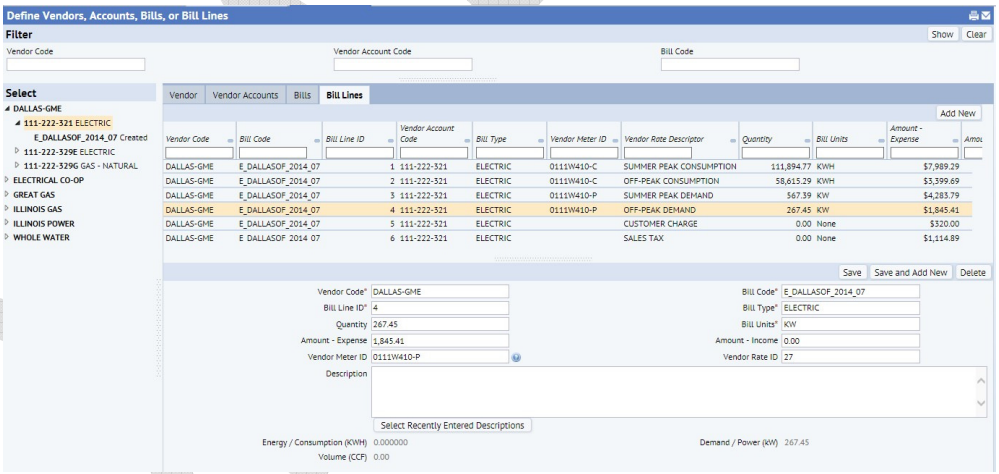
Navigation Path

Environmental & Risk Management/Energy Management/Business Process Owner -Utilities / Define Meters

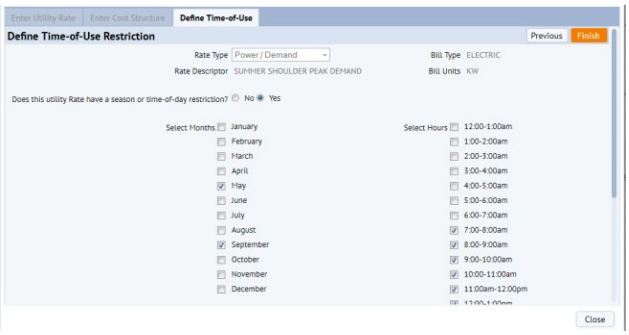
Environmental & Risk Management/Energy Management/Accounting Supervisor/Review and Approve Bills

Billing Rate Plans and Sub-metering Structure

The ARCHIBUS enterprise information model contains a nuanced structure for coordinating energy bill information with meter and sensor data.



Rate Plans. The utility bill structure captures details of energy rate plans that have significant cost consequences. For instance, rate plans can capture declining block structure plans, in which cost of power is lower for higher brackets of consumption. Alternately, rate plans can include a time-of-use structure, in which energy costs differ based on month and time of day. Vendor contracts and rate plans have start and end dates so you can track changes in cost as contracts are renegotiated. You can copy previous contracts and rate structures to streamline the entry of the rate plan.



Bills and Sub-meters This structure captures critical variations, such as the separation of measurements for demand and consumption. The structure also manages all details of the energy rate plans that govern each line item of the utility bill and many-to-many relationship between the metering the vendor uses for billing and the internal meters and sub-meters that the organization may have placed. For instance, an organization may use sub-metering to track actual usage by sub-tenants, by lines of business, or for particular labs or manufacturing areas that have high energy consumption. ARCHIBUS records the subtleties of the relationship of the physical meters to the utility accounts.

View Meters Linked to Account

Add or Remove Meter Link Add Remove

Meters are linked to a Vendor Account by Vendor Meter ID and Rollup Type

Meter ID	Meter Name	Measurement Units	Site Code	Building Code	Floor Code	Zone Code	Meters to Include	Meters to Exclude	Vendor Meter ID
13	JFK A-01 Consumption	KWH	JFK	JFK A	01	SUITE 1			L6789-004
14	JFK A-02 Consumption	KWH	JFK	JFK A	02	SUITE 2			L6789-004
16	JFK A-01 Power	KW	JFK	JFK A	01	SUITE 1			L6789-004
17	JFK A-02 Power	KW	JFK	JFK A	02	SUITE 2			L6789-004
21	JFK A-03 Suite 3A Consumption	KWH	JFK	JFK A	03	SUITE 3A			L6789-004
22	JFK A-03 Suite 3B Consumption	KWH	JFK	JFK A	03	SUITE 3B			L6789-004
23	JFK A-03 Suite 3A Power	KW	JFK	JFK A	03	SUITE 3A			L6789-004
24	JFK A-03 Suite 3B Power	KW	JFK	JFK A	03	SUITE 3B			L6789-004

Virtual Meters. Another key to deriving real-world results for energy information is virtual meters. You may have your own meters on different suites tracking consumption and need to sum the results from all meters in a building in order to compare your measured results against the utility bills. Alternately, you might have labor manufacturing areas that have their own utility billing and must be excluded from the metered results of the building as a whole.

Is this a Virtual Meter?
(a combination of two or more meters) ○ No ◉ Yes
Meters to Include 342
Meters to Exclude 42445, 42446

Navigation Path

Environmental & Risk Management/Energy Management/Cost Administrator/Enter Bills

Environmental & Risk Management/Energy Management/Accounting Supervisor/Define Utility Rates

Environmental & Risk Management/Energy Management/Business Process Owner-Utilities/Define Bill Connector Associations

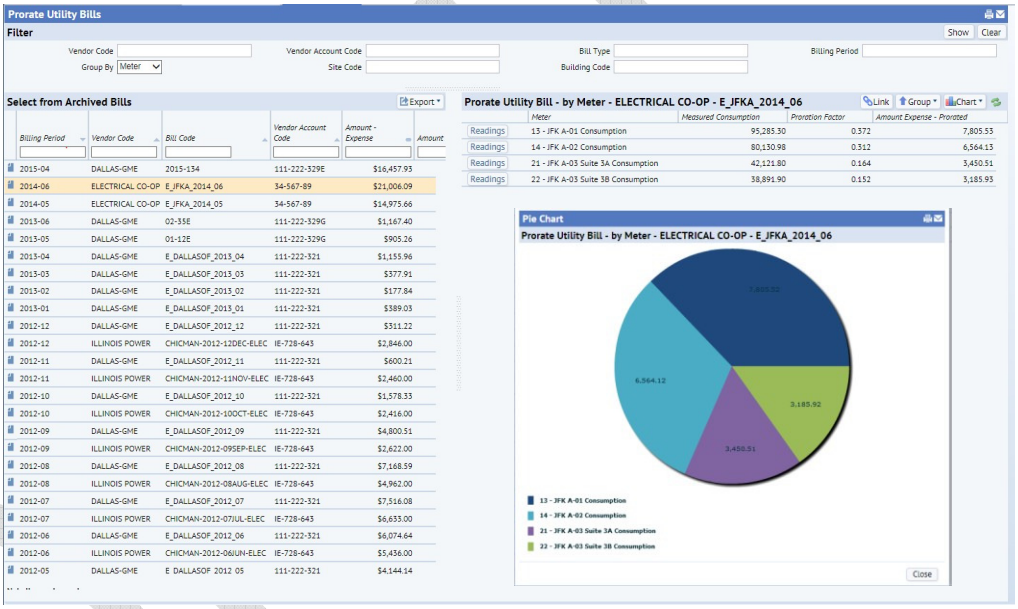
Environmental & Risk Management/Energy Management/Business Process Owner-Utilities/Define Meters

Utility Cost Proration

Utility costs are a significant proportion of operating budgets. However, energy billing is not straight forward. Large facilities may want to prorate a bill for an entire site to tenants of its various buildings. A university may purchase energy in bulk and bill individual departments for their portions of the usage. A large organization may have its own on-site sustainable power generation and may be, at some points, selling energy back to the grid.

Moreover, the energy charges are not straightforward. Energy has different costs when purchased in different quantities (as in a declining block rate plan), when purchased at different times (as in a time-of-use rate plan), or when drawn at increased rates (when power drawn is metered differently than consumption).

The utility cost proration feature takes the utility bill and prorates it by consumption based on your actual sub-metered use of each energy "tenant". The link feature drills in to exactly which actual meters contribute to the charges. The Group feature analyzes costs by site, building, floor or zone as well as by meter.

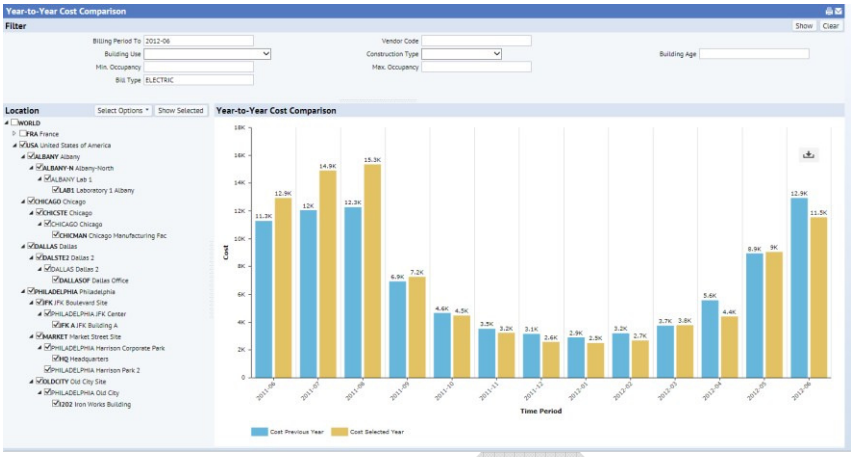


Efficiency Reports

This series of new efficiency reports analyze billed consumption and costs as the amount so record and do not need automated feeds from utility meters.

Filters A series of filters helps you compare like-to-like spaces for accurate comparisons. For instance, you can filter by construction type to analyze warehouses, manufacturing and office buildings separately as they have different consumption characteristics. You can also filter by region to normalize out differences in climate or regional differences in the prevailing cost of utilities. You can also filter buildings by age to compare the benefits of remediation efforts against the likely cost for a building of that age.

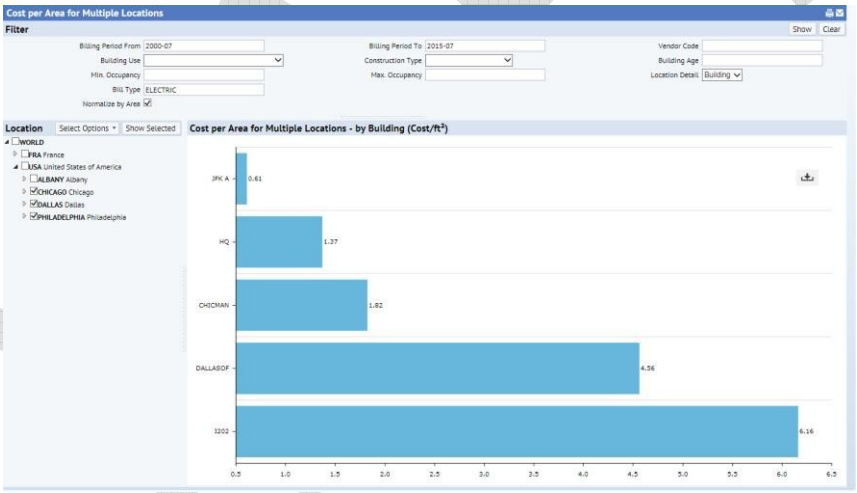
Year -to-Year Cost Comparison. This compares costs of the selected year to the previous year. This report is useful for finding seasonal differences to see if winter heating or summer cooling is driving the overall costs and might require different remediation efforts. Drilldowns examine which bills contribute to the total, and you can refine your location search to narrow your analysis down to problematic buildings, building types, or utility types.



Navigation Path

Environmental & Risk Management/Energy Management/ Energy Manager/Facilities Director/Year-to-Year Cost Comparison

Cost per Area for Multiple Locations This report normalizes cost per area. It is useful for like-to-like comparisons for buildings such as warehouses and manufacturing space whose value to the organization is proportional to their size.



Navigation Path

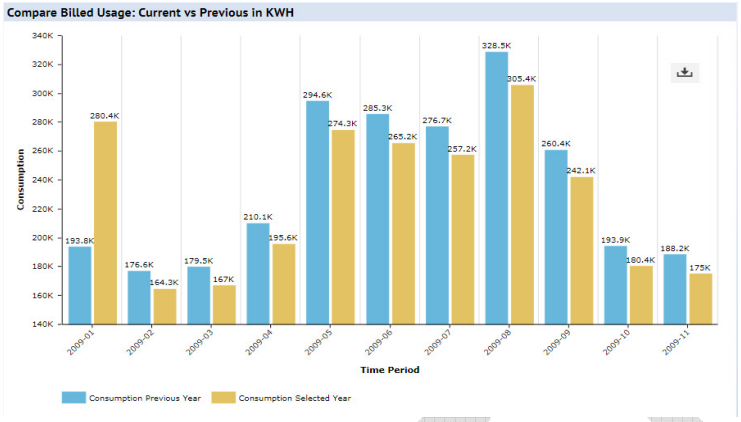
Environmental & Risk Management/Energy Management/ Energy Manager /Facilities Director/Cost per Area for Multiple Locations

Consumption per Person This report is similar to Cost per Area, but normalizes the consumption per headcount capacity of each building. This report is useful for comparing office space in terms of effectiveness for the number of staff housed. Comparing by consumption rather than cost normalizes changes in cost -- which remediation efforts cannot control -- to changes in policies, habits, and building condition -- which remediation efforts can control.

Navigation Path

Environmental & Risk Management/Energy Management /Energy Manager /Facilities Director/Consumption per Person

Compare Billed Usage: Current vs. Previous. This compares the consumption of energy this year versus the consumption in previous years. By comparing consumption rather than cost, as the Year-to-Year Cost Comparison does, the report factors out changes in energy cost.



Navigation Path

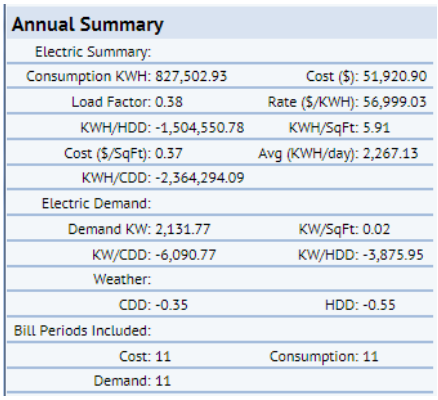
Environmental & Risk Management/Energy Management /Energy Manager /Facilities Director/Compare Billed Usage: Current vs. Previous

Year-to-Date Summary. This summarizes energy consumption, costs, heating degree coefficients, and cooling degree-day coefficients, in running totals over recent periods. can summarize by Calendar or Fiscal year. The degree-day information is taken from the local weather information for the locale of the building. The values are useful for cash flow and budgeting of energy costs.

Navigation Path

Environmental & Risk Management/Energy Management/ Energy Manager/Facilities Director/Year-to-Date Summary

Annual Summary The annual summary overviews key concerns for a building over the previous year.



Annual Summary

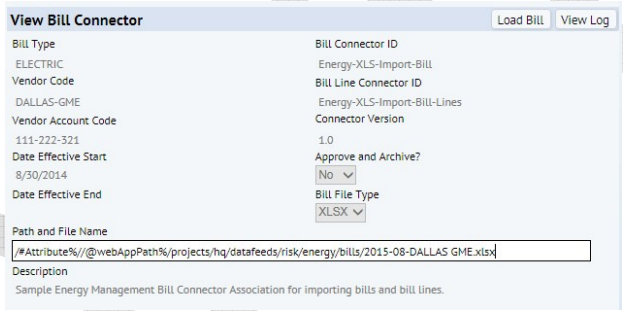
Electric Summary:	
Consumption KWH: 827,502.93	Cost ($): 51,920.90
Load Factor: 0.38	Rate ($/KWH): 56,999.03
KWH/HDD: -1,504,550.78	KWH/SqFt: 5.91
Cost ($/SqFt): 0.37	Avg (KWH/day): 2,267.13
KWH/CDD: -2,364,294.09	
Electric Demand:	
Demand KW: 2,131.77	KW/SqFt: 0.02
KW/CDD: -6,090.77	KW/HDD: -3,875.95
Weather:	
CDD: -0.35	HDD: -0.55
Bill Periods Included:	
Cost: 11	Consumption: 11
Demand: 11	

Navigation Path

Environmental & Risk Management/Energy Management/ Energy Manager/Facilities Director/Annual Summary

EDI Connector

Often Utilities provide bill invoices through an Electronic Data Interchange (EDI) format. A common format is the 810 Invoice transaction set defined by the Accredited Standards Committee (ASC) X12 of the American National Standards Institute (ANSI).ARCHIBUS provides the Connectors interface to adjust the connector to the specific format provided by your vendor, and provides a tool for associating different connectors with different vendor bills so as to always import the vendor's bill using the correct connector format.



Navigation Path

Environmental & Risk Management/Energy Management/Business Process Owner-Utilities/Define Bill Connector Associations

Environmental & Risk Management/Energy Management/Accounting Supervisor/Load Bills

ARCHIBUS System Administration/System Administrator/Configure Connectors, select the EDI Import connector

Help Topic - Energy Management On-Ramp Using the Connectors -Overview

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/energy/bpo/load_bills_connector_over.htm

Help Topic - Electronic Data Interchange (EDI)

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#connectors/edi.htm

DRAFT

Hazardous Materials

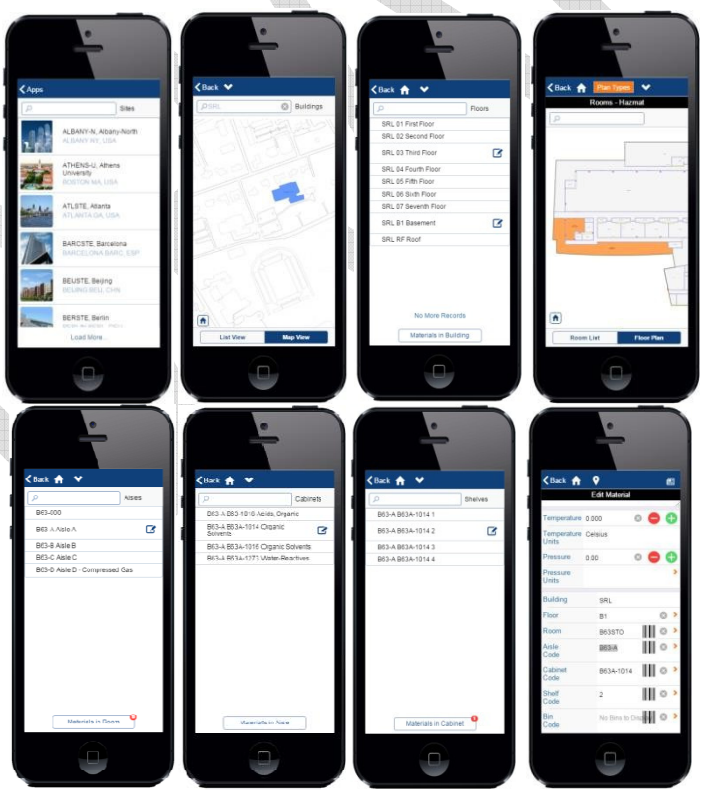
V.22 expands this application beyond Material Safety Data Sheets by adding full materials inventory tracking features and a mobile app. For this reason, this application has been renamed to "Hazardous Materials."

Organizations that must maintain inventories of hazardous materials – especially those subject to EPCRA Tier 2 reporting requirements – conduct regular inventory audits during which staff inspects each storage location in the facility. They record or update the hazard identity , quantity of products and containers, and, frequently, the custodian or principal investigator authorized to possess and responsibly manage the material.

The process requires time of staff with skill and knowledge of hazardous materials. ARCHIBUS provides automated tools to greatly reduce the time and the overhead of these inventories. ARCHIBUS validated selection lists reduce errors and omissions that can have costly and grave consequences.

Bin-level Materials Inventory

Both ARCHIBUS Web Central and the new Hazardous Materials mobile app support detailed, bin-level inventory. With ARCHIBUS you can find the needle in the haystack. Relatively few labs and storage rooms in a facility contain hazardous material, yet these rooms are in widely scattered locations and contain a large number of distinct products, each of which must be rigorously cataloged. Even in large warehouse-style storage rooms, you can drill down through aisles, cabinets, shelves and bins and pinpoint exactly the material you are looking for. Edit quantities and update values with a quick barcode scan.



Inventory managers, lab managers, principal investigators and emergency response teams will all benefit from ARCHIBUS' quick, accurate and graphical information on location hazards.

V.22 adds the bar-coded Container ID and Custodian for sites that track individual containers and responsibility.

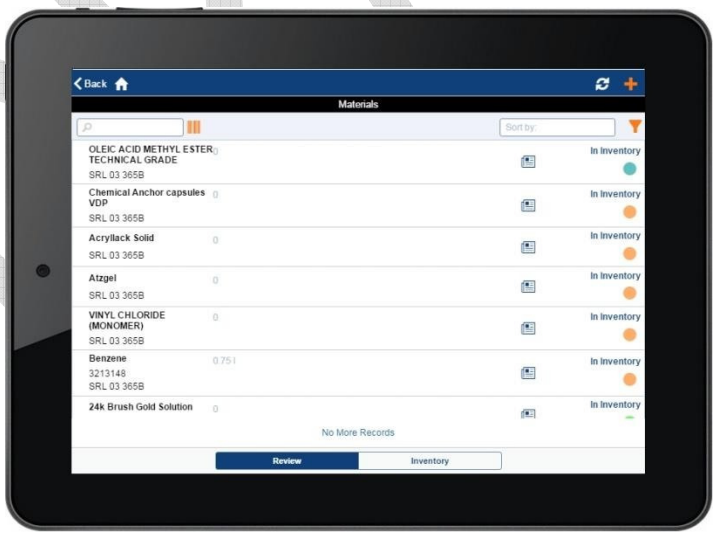
Help Topic - Manage Material Inventory

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/msds/manage_msds/overview.htm

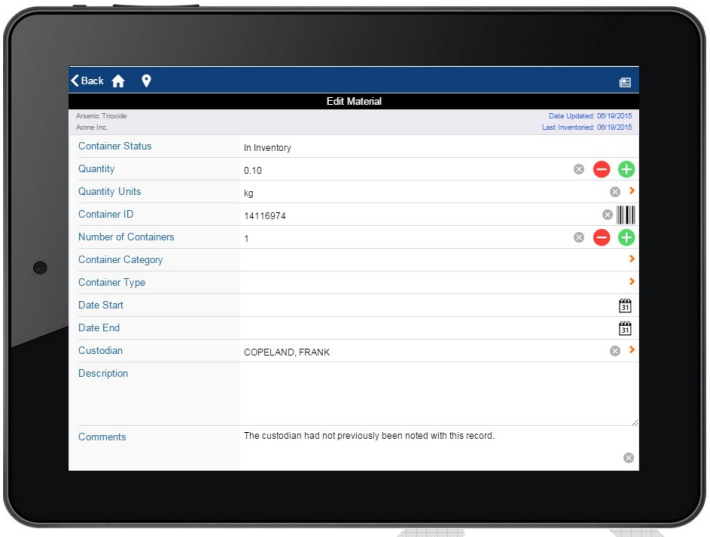
Hazardous Materials Mobile App

Find Inventory. Graphical drilldowns through sites, buildings, floors and rooms indicate at each step which areas contain hazards. Floor plans highlight rooms storing hazards with a theme based on their Tier 2 hazard classification.

Know What you Have. Quickly scan the list of materials that is expected to be in that closet, shelf or bin.



Edit Inventory. One tap on the document icon brings up the safety data sheet for that substance. Another tap brings up an edit to change quantities or Custodian.



Emergency Preparedness

Integrated Hazmat Reporting

Many stakeholders -- including emergency response teams, lab managers, construction managers, compliance managers -- have need to see an integrated view of hazards known to be in the facility. In some sectors, all known hazards that might affect work activity must be identified and addressed before work can begin. In an emergency, central access to all known hazards can significantly reduce risk to both occupants and responders.

In V.22, the Emergency Preparedness application presents means of reviewing all hazards recorded with ARCHIBUS -- whether they were recorded with the Emergency Preparedness, Hazardous Materials, Clean Building, or Waste Management applications. This integrated view reduces the chances that a classification of hazard or an interaction between hazards will be overlooked.

Highlight Hazard Overview. This presents an integrated, quick view of all hazards registered with ARCHIBUS, including hazard assessments, hazardous chemical locations, and locations of hazardous waste.

Navigation Path

Environmental & Risk Management/Emergency Preparedness/First Responders/Highlight Hazard Overview

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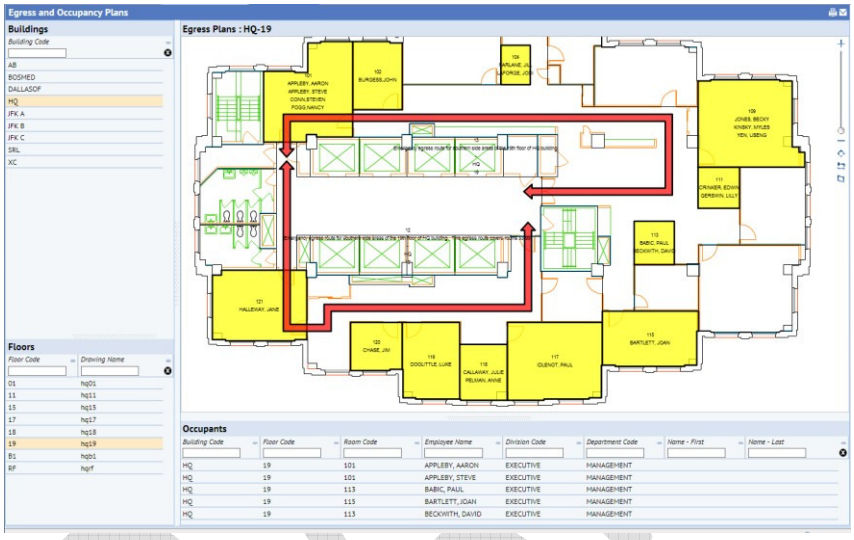
Facility Hazards View. Focuses on all the Regulation Compliance items registered with ARCHIBUS. This can be hazardous material but can also include static hazards such as laser activity in a laboratory, chemical vents from vent hoods, and negative-pressure bio rooms.

Navigation Path

Environmental & Risk Management/Emergency Preparedness/First Responders/Highlight Facility Hazards

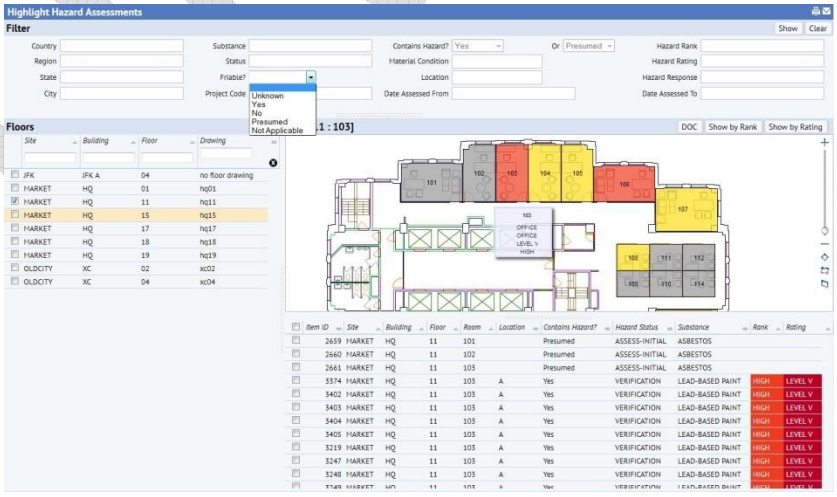
Egress and Occupancy Plans Are now integrated so first responders and recovery team scan focus attention on occupied area's



Navigation Path

Environmental & Risk Management/Emergency Preparedness/First Responders/View Egress and Occupancy Plans

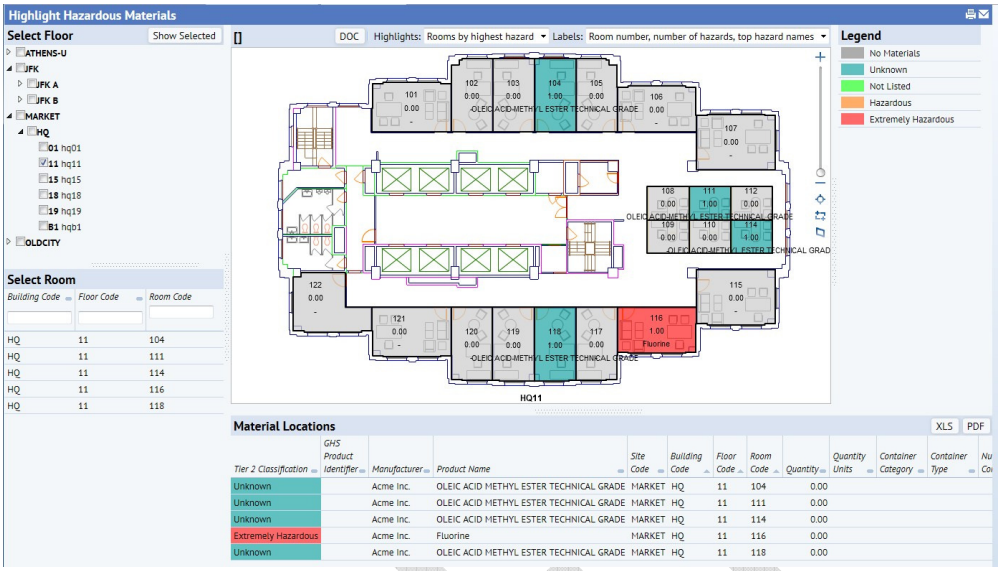
Highlight Hazard Assessments. You can catalog all hazardous assessments by hazard rank or rating.



Navigation Path

Environmental & Risk Management/Emergency Preparedness/First Responders/High light Hazard Assessments

Highlight Hazardous Materials. Highlights locations that contain known hazards , highlighted by Tier 2classification.



Navigation Path

Environmental & Risk Management/Emergency Preparedness/First Responders/Highlight Hazardous Materials

Hazardous Waste This view highlights rooms where hazardous waste is stored or accumulated.

Navigation Path

Environmental & Risk Management/Emergency Preparedness/First Responders/Highlight Hazardous Waste

Update Room Status Now updates rooms in bulk and creates a visual reference for room status -- No Status, Under Review, Fit for Use, Fit for Use - Offline, Unfit for Use-Recoverable, unfit for Use -Destroyed.

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Navigation Path

Environmental & Risk Management/Emergency Preparedness/Assessment Team/Update Room Status

Update Equipment Status. Now also updates in bulk and highlights thematically by Recovery Status.

Navigation Path

Environmental & Risk Management/Emergency Preparedness/Assessment Team/Update Equipment Status

Verifying Emergency Contacts

Emergency contacts may be full-time employees, external vendors such as service providers, or contacts, such as building supervisory personnel. Rapid changes in work personnel often make it difficult to keep emergency contact information up-to-date. The Define Emergency Contacts view now provides a single, central registry for contact information. It combines all of the last known information for each contact. It also uses links to the Employee, Vendor and Contacts table to review existing lists to see which may be out of date, such as when an employee has left the organization. The contacts table lists the last date each entry was verified so that you can focus your verification effort on older entries. You can now cross-link the same emergency contact with multiple sites, buildings and properties.

Navigation Path

Environmental & Risk Management/Emergency Preparedness/Business Process Owner/Define Emergency Contacts

Email Notifications for Advisory Bulletins

The Advisory Bulletins now have an email notification feature to reach staff, vendors, building and property managers without their needing to sign in to Web Central.

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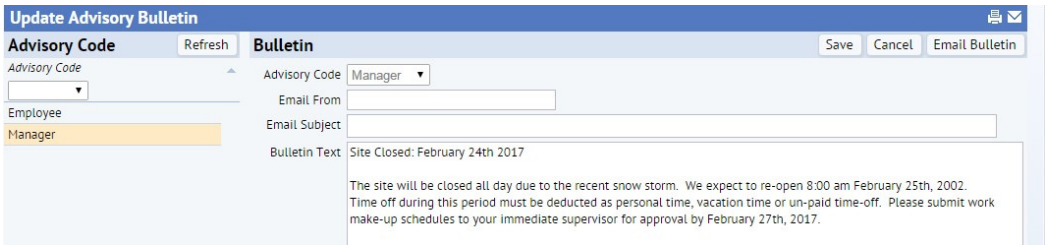

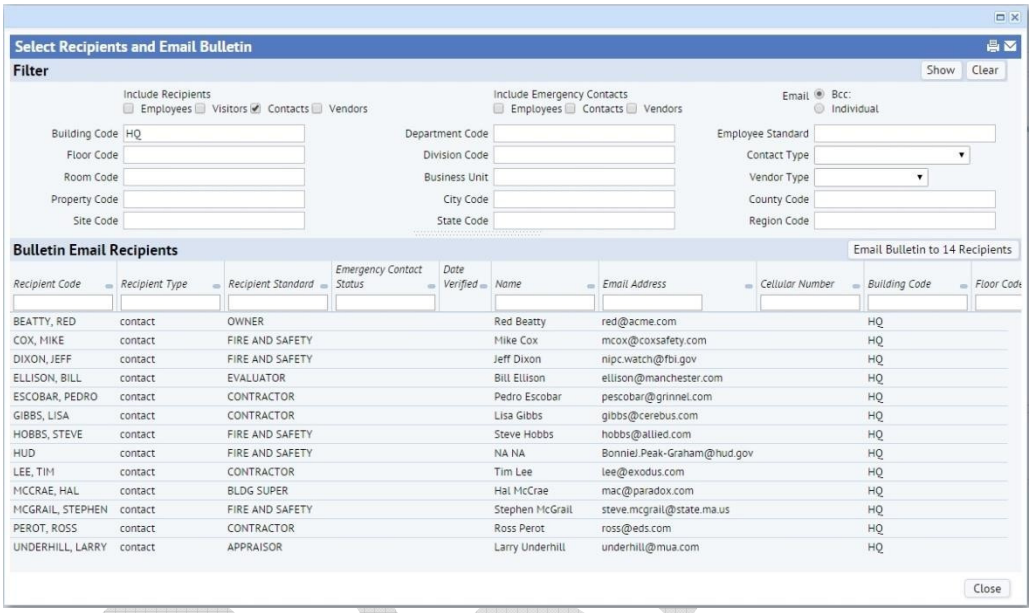

Navigation Path

Environmental & Risk Management/Emergency Preparedness/Managers/Update Advisory Bulletin, Select the Email Bulletin button

Emergency Preparedness Document Library

Many organizations maintain documents pertaining to emergency preparedness, some of which are required reading for every building occupant. Some of these documents are specific to a site or facility and detail evacuation routes, muster areas, "sweep" instructions ,shelter in place instructions, or emergency procedures. Some are specific to equipment or facilities, such as emergency shutdown procedures for equipment, data protection and offsite storage procedures. Others are company-wide, such as cleanup procedures for blood-borne pathogens or automated external defibrillator (AED) instructions.

ARCHIBUS provides an interface for defining, organizing, and retrieving emergency documents according to virtual folders, categories, and types.

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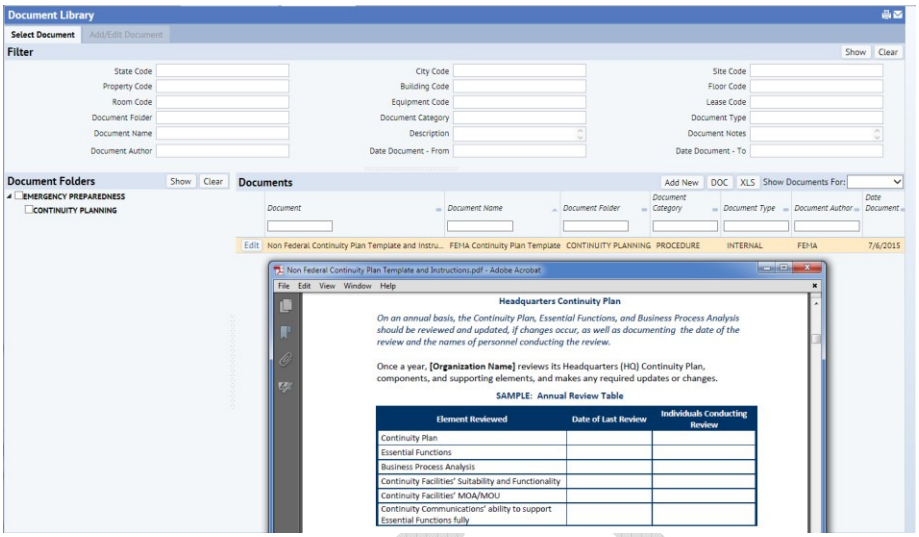
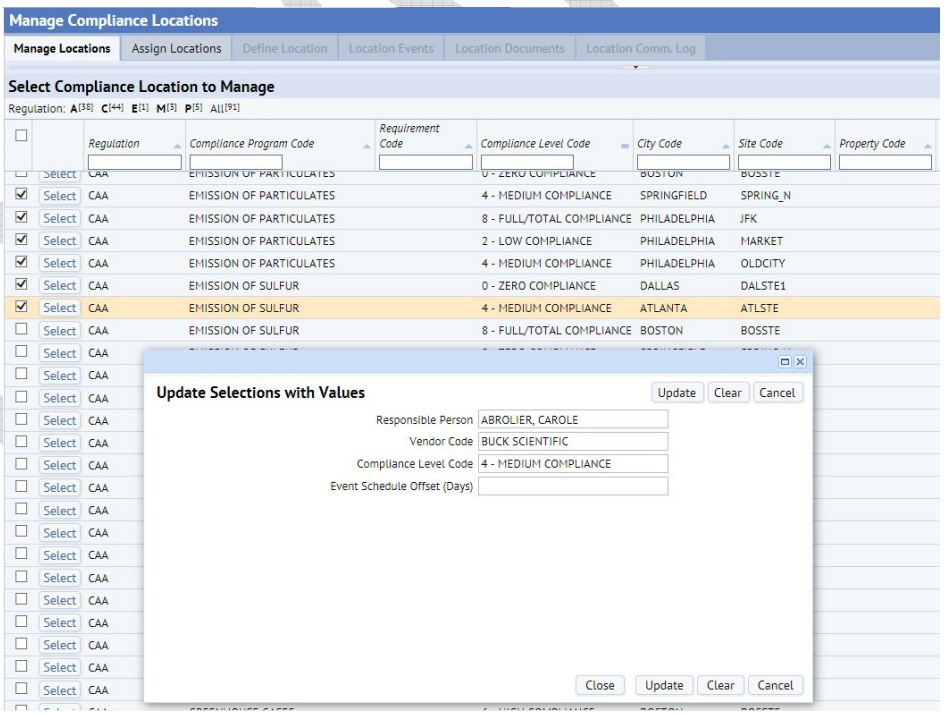


Path

Environmental & Risk Management/EmergencyPreparedness/Documentation/ManageDocumentLibrary

Compliance Bulk Edit of Compliance Details

You can now make bulk changes to the locations of compliance observations. This change greatly speeds the entry and update of compliance information.



Navigation Path

Environmental & Risk Management/Compliance Management/ Compliance Program Manager/Manage Compliance Locations

Help Topics - Making Bulk Location Assignments

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/Subsystems/webc/Content/compliance/program_mgr/loc_assign.htm

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/Subsystems/webc/Content/compliance/program_mgr/loc_add_edit.htm

Compliance - Integration with Maintenance Workflows

Compliance Officers face the daunting task of ensuring continuous compliance with hundreds, or sometimes thousands, of existing and new regulatory requirements across their physical asset portfolio. Compliance failures can result in significant fines and penalties, business disruption, injuries, and in the worst cases, catastrophic disasters and loss of life.

Quite often, many regulatory requirements are related to preventive or on-demand maintenance and diagnostics of facilities and equipment. Compliance Officers must en sure that required maintenance work is completed before they can sign off on a regulatory requirement. This is typically a labor-intensive and error-prone manual process whereby compliance managers need to coordinate and communicate with maintenance managers in order to verify that the work was done and to gain access to supporting documentation and evidence. This process is highly inefficient and easily results in errors and omissions that can compromise compliance programs.

For this reason, the ARCHIBUS Compliance application has a series of features to connect compliance and maintenance workflows and to give compliance officers transparency into maintenance procedures and status.

This integration offers tremendous benefits to the compliance department of any organization:

- Increase operational efficiency related to regulatory requirements involving maintenance work.
- Minimize occurrences of non-compliance due to miscommunication or a failure in coordination with the maintenance department.
- Minimize occurrences of non-compliance as a result of automated email notifications based on maintenance work status related to compliance requirements.
- Improve outcomes of regulatory audits as a result of having fast and easy access to supporting maintenance evidence.

Preventive Maintenance Integration

You can synchronize the status of compliance regulations and the preventive maintenance work of the maintenance staff. This is beneficial for compliance with due dates for fire extinguisher maintenance, emergency power system testing, and fire safety system testing and certification.

A single Compliance Event can track the status of multiple Work Requests for multiple Preventive Maintenance schedules. The system automatically updates the status of the Compliance Event based on the status of the related Preventive Maintenance Work Requests.

In addition, the system notifies the responsible compliance manager of a regulation if a preventive maintenance task is missed or overdue.

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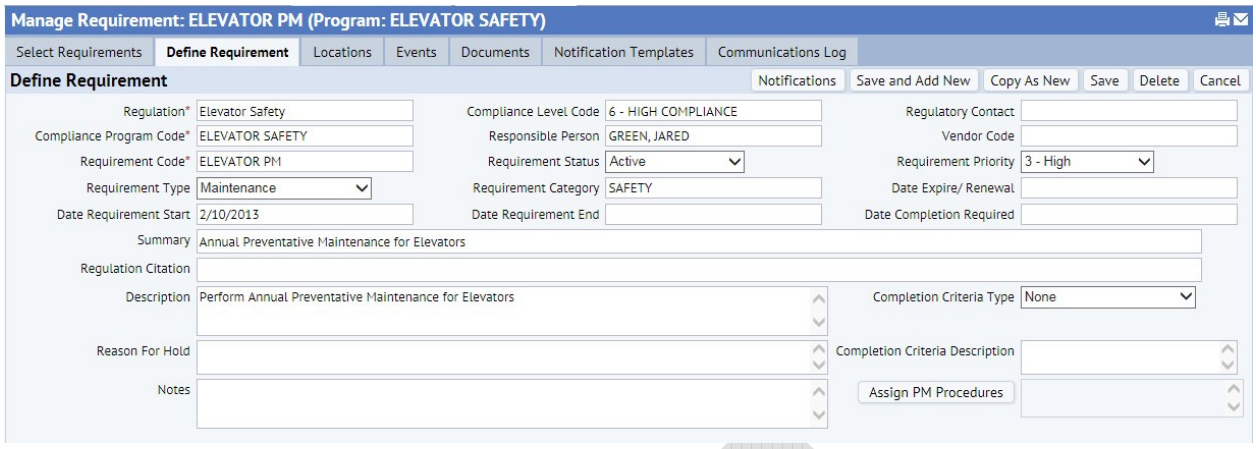

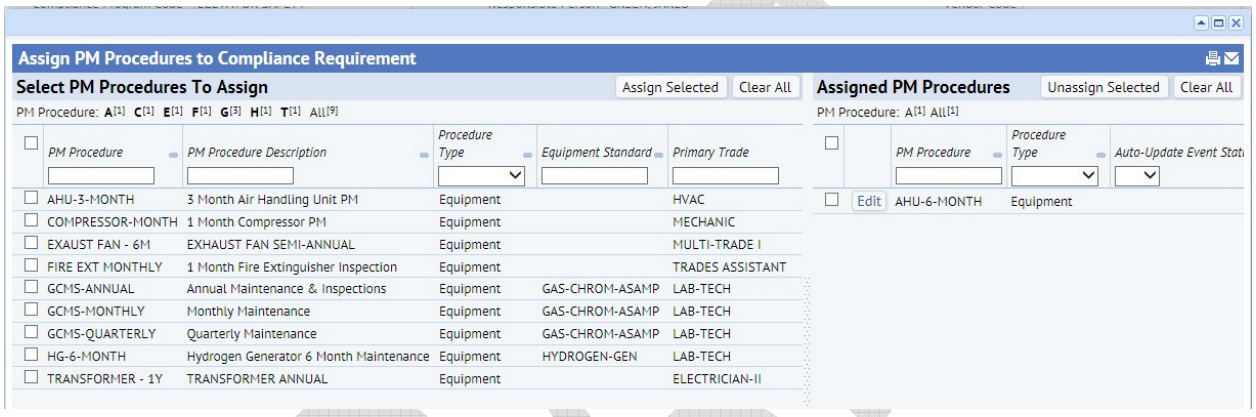

Navigation Path

Environmental & Risk Management/Compliance Management/Work Status Reports/Programs with Overdue PM Schedules

On Demand Work Integration

Compliance managers can create service requests to remediate compliance violations. For instance, if a compliance manager finds an ADA Compliance violation, they can create a Work Request for maintenance to remediate the issue.

A single Compliance Event can trigger multiple Work Requests. The system automatically updates the status of the Compliance Event based on the status of the related Work Requests.

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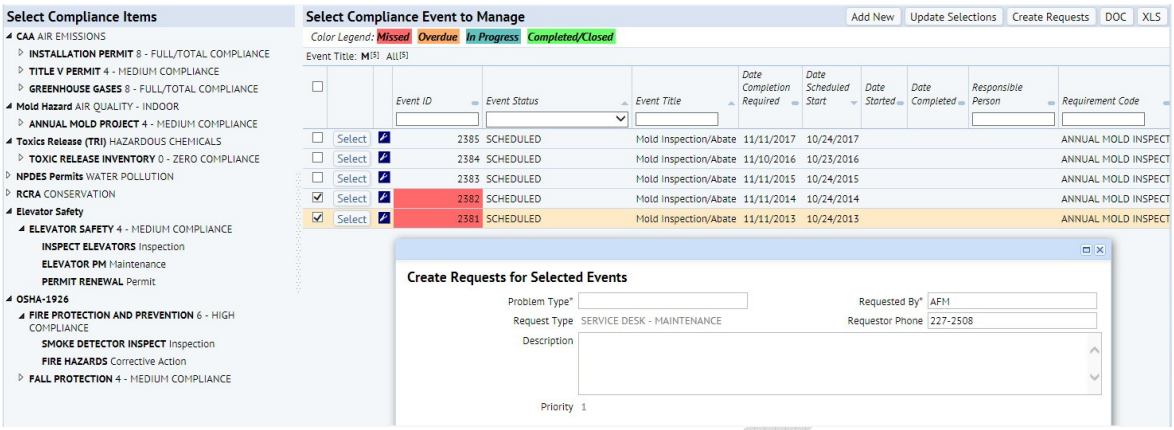


Navigation Paths

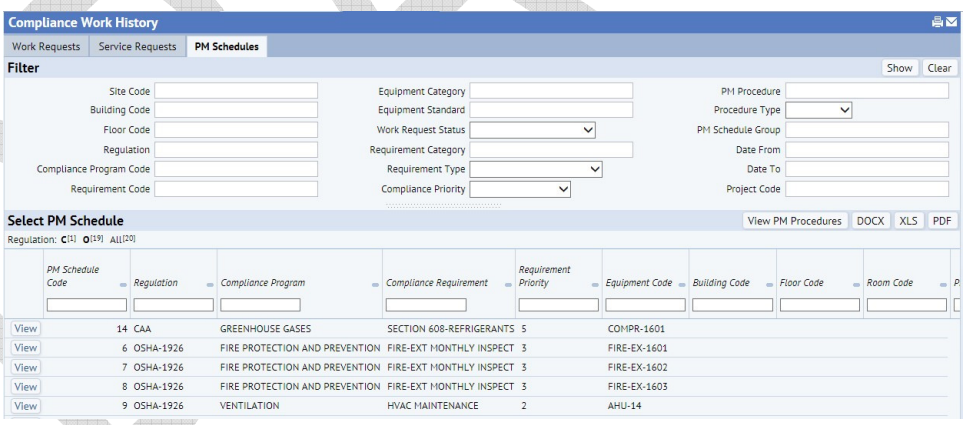
Environmental & Risk Management/Compliance Management/ Compliance Program Manager / Manage Compliance Requirements

Environmental & Risk Management/Compliance Management/Work Status Reports/Programs with Overdue Work

Environmental & Risk Management/Compliance Management/Work Status Reports/Programs with Active Work

Compliance Audits

When there is a compliance audit, compliance managers can pull up all supporting evidence for an issue, including all documentation for preventive maintenance and on demand work related to compliance events.



Navigation Path

Environmental & Risk Management/Compliance Management/Work Status Reports/Compliance Work History

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Workplace Services

Reservations

ARCHIBUS Reservations application has a score of fit and finish improvements to make it easier than ever. Improved speed on retrieving free-busy time, configurable error message, fine-tuning of email notifications. The Hide Room Conflicts Application Parameter now controls how the system handles conflicts in recurring reservations -- allowing you to permit the reservation control to display rooms with conflicts for some of the dates. Improved logging for system administrators helps diagnose connection issues when integrating with Microsoft Exchange.

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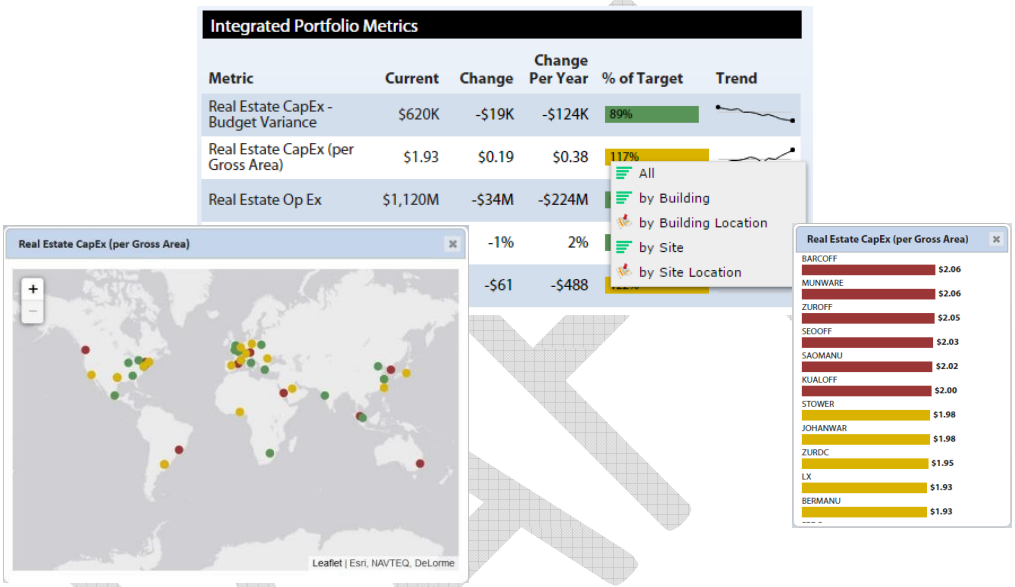
Web Central

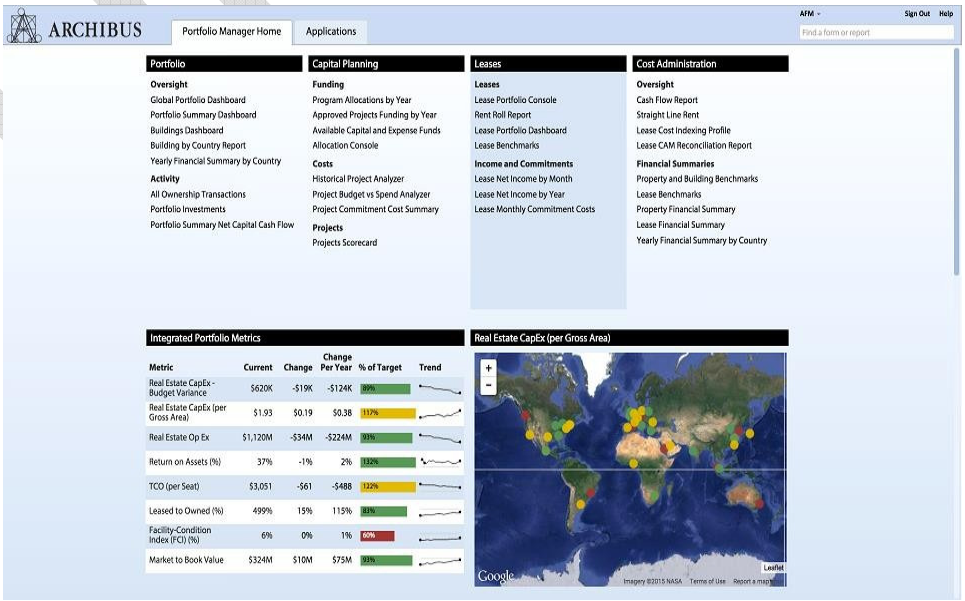
Enterprise Reporting Enhancements

Maps on the Home Page

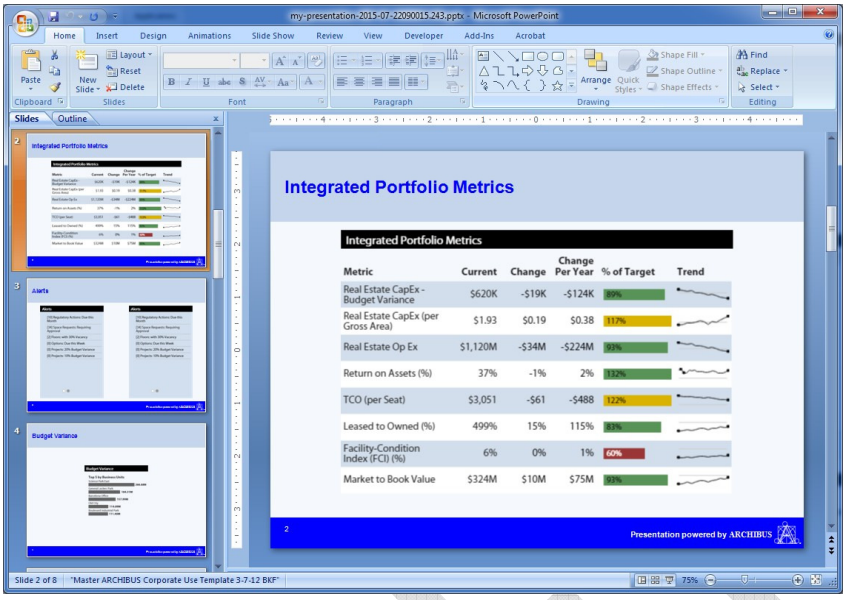
V.22 automatically adds the geospatial dimension to your existing ARCHIBUS business intelligence. Right from the performance metrics scorecard, you can drill in to any performance metric that has a building or site granularity and immediately see the location of each part of your business that contributes to that metric. Buildings and sites are thematically colored red, yellow and green based on how well they conform to your performance goals.



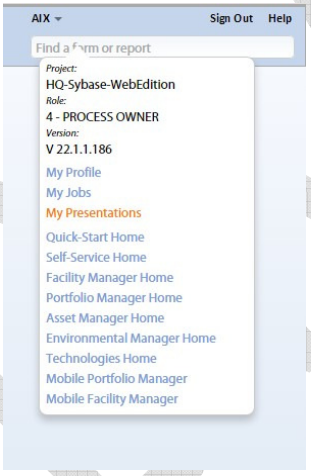
You may have a metric that you manage to day by day. For instance, an operations manager may wish to be informed of the number of new work requests or a real estate broker may wish to see leases coming due. In this case, they can place the map directly on the home page so that they can see at a glance which locations require attention.



Printing Directly to PPT



Often the most relevant information on your business is right on the home page – in metrics, alerts, and charts of outlier conditions, such as budget variance or occupancy. But suppose you need to present this information in a meeting ... in five minutes? Just scroll the screen to display the panels you want to see and invoke the My Presentations feature. The program will print the metrics, alerts and charts to a PPT file.



You can also use this feature from the Space & Portfolio Planning console to show proposed space forecasting scenarios to stakeholders -- such as pre- and post-stack diagrams after a proposed merger. This feature also appears in the Project Proposal Console, where it assembles all markup associated with project work packages and tasks.

Help Topic - Creating a PowerPoint Presentation from your ARCHIBUS Data:

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/webc/Content/web_user/using_wc/create_ppt.htm

Crystal Report Integration Improvements

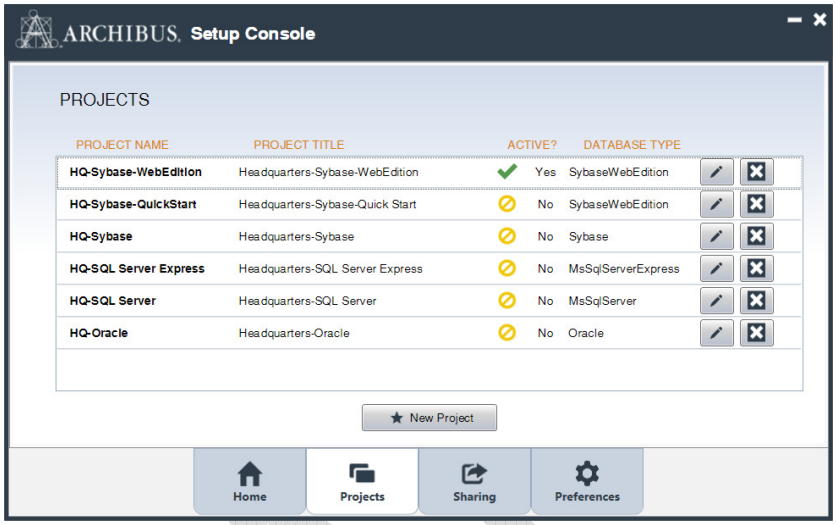
If you are launching your Crystal Reports from ARCHIBUS, you can now use multiple tables and sub-reports. Add-in Managers can now pass restrictions to Crystal Reports from consoles and tree views.

Help Topic - Using Crystal Reports:

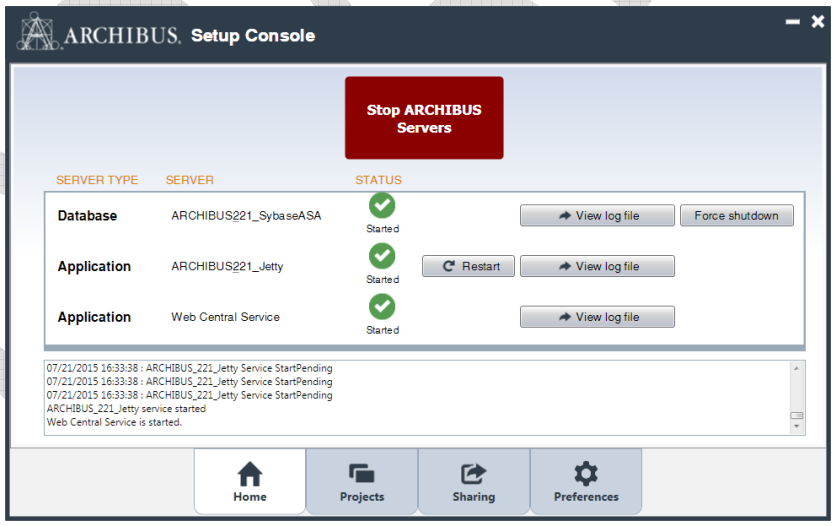
http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#crystal_reports/using.htm

Setup Console

ARCHIBUS system administration just got a whole lot easier. The ARCHIBUS Setup Console organizes all your projects and application preferences in one place.



For single-user and workgroup installations, the Setup Console provides the "easy" button to start or stop all of your servers in one step. You can follow the progress of the startup and get one-click access to the log files should you need to investigate any error.



The Setup Console is the only part of ARCHIBUS that needs to access system administrative functions. This means that you can now run the Smart Client without ever needing to start in administrator mode, and now there is no difference between the "full" and "Client Only "Smart Client. All versions of the Smart Client are now "Client Only".

Help Topic – Setup Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/smart_client/Content/system_admin_console/sys_admin_console_over.htm

Emailed Notifications on Metrics and Alerts

You can have ARCHIBUS send you tailored notifications about key alerts so that you can be apprised of critical items even if you don't log into your ARCHIBUS home page. For instance, a compliance manager may wish that all “Regulatory Actions: Due This Week" are sent to them in an email on Monday. The email can contain links to ARCHIBUS views , such as the Compliance Violation view, so that you can immediately drill into the details you need to resolve the issue. Safety incident Reports, work request escalations, low-inventory warnings, project budgets, strategic targets -- all can send proactive notifications.

You can establish notifications based on high or low warning limit, high or low critical limit, or targeted report limits. You can define the message with a template that inserts the metric values, fine tune the recipient list, and create multiple types of notification based on the same metric.

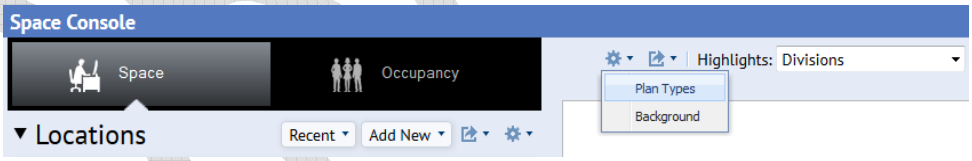
Help Topic - Notifications for Metrics:
http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#metrics/notif_over.htm

Path: The System Administration / Add-in Manager process has view for defining notification categories, messages and templates and for reviewing the notifications log.

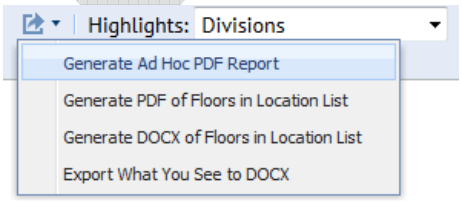
Improved Drawing Printing

The Space Console uses advances in the Web Central core to provide you a wide range of configuring how you print drawings, including features for controlling text fields, text height, asset text position, leader lines from asset text, drawing layers, and thematic highlighting styles. The Space Console also gives you options for consistent drawing scaling with in *ad hoc* sets of drawings.

Path: Space Management/Space Inventory & Performance/Space Manager/Space Console. The gear icon gives access to the new printing configuration commands.



Those configuration commands control the export and generate commands available from the export icon



Plan Types

The Space Console now gives you the option of using Plan Types as configurable means of controlling the list of text fields, text height, the color highlighting theme, and the legend for paginated reports.

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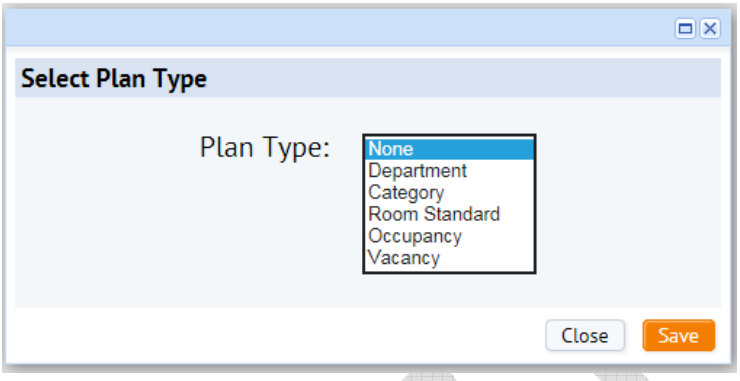
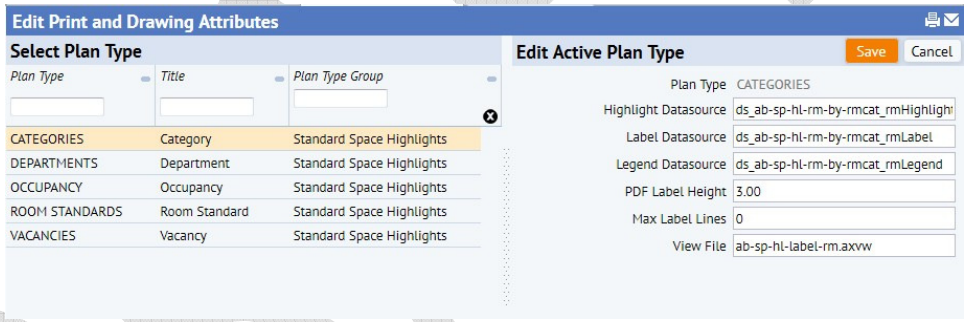
Using Plan Types To use a plan type, select it from the Select Plan Type options command on the Space Console. That plan type will be used to highlight the drawings you load in the Space Console and for any subsequent command you invoke to generate PDF or DOCX reports.



Changing Plan Types If you want to change a plan type, use the Space Management/Space Inventory and Performance / Background Data / Edit Print and Drawing Attributes form. You can replace the data sources or view that provides the list of text fields or the highlight criteria ,or that specify the text height and the maxim number of lines of label text to display in each asset.



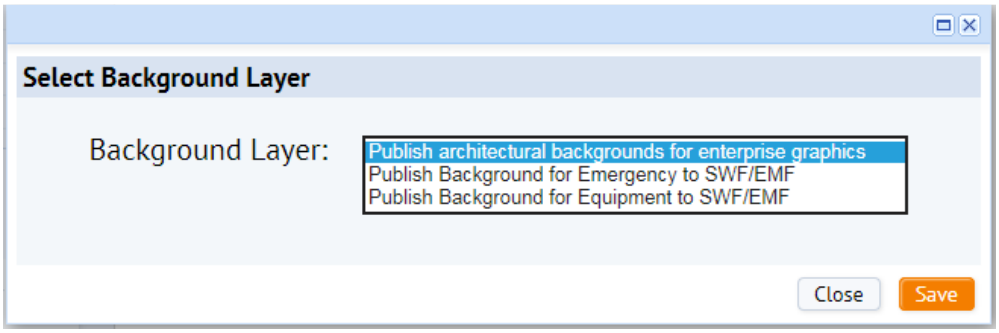
Creating Your Own Plan Type. If you want to add an altogether new plan type, add it to the Manage Plan Types table. To make the plan type appear on the Space Console, use the Smart Client Views tab to load the Plan Type Groups table, assign your new plan type to the "Standard Space Highlights" group, and make sure the Active? value is set. From the Manage Plan Types view, you can also set multiple labels and highlight data sources – for instance you can have one set of highlighting and labels for vacant rooms and another set for occupied rooms.

Path: System Administration/ARCHIBUS System Administration/Mobile Apps Manager/Manage Plan Types

http://localhost:8080/archibus/ab-sp-space-book-plan-types.axvw

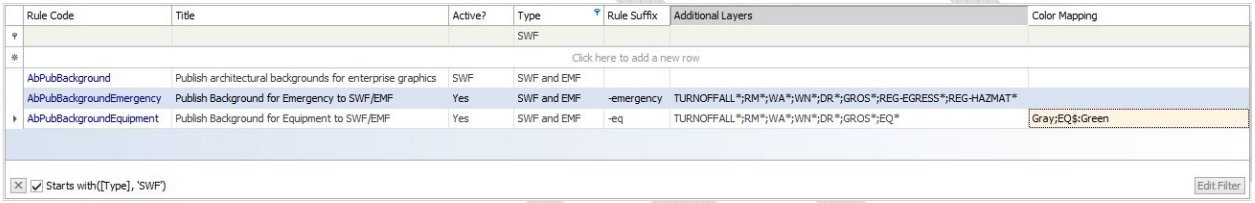
Background Layers

Often, you want your floor plans to show underlying background detail – such as architectural, plan lines, the equipment or furniture plan ,the emergency plan, of other groups of layers. You can do so with back ground layers.



Using Background Layers If you use the Select Background Layer command, the layer grouping you select will appear as the background in the Space Console and in your exported reports.

Creating Your Own Background Layers You create a background layer group by creating a new Drawing Publishing rule. You can do so in the Smart Client with the System Administration / CAD and BIM Manager / Edit Drawing Publishing Rules task. Once the rule is in place, the Publish Enterprise Graphics command will publish your background layer group along with the other graphic information.



Rule Code	Title	Active?	Type	Rule Suffix	Additional Layers	Color Mapping
			SWF			
	Click here to add a new row					
AbPubBackground	Publish architectural backgrounds for enterprise graphics	SWF	SWF and EMF			
AbPubBackgroundEmergency	Publish Background for Emergency to SWF/EMF	Yes	SWF and EMF	-emergency	TURNOFFALL*;RM*;WA*;WN*;DR*;GROS*;REG-EGRESS*;REG-HAZMAT*	
AbPubBackgroundEquipment	Publish Background for Equipment to SWF/EMF	Yes	SWF and EMF	-eq	TURNOFFALL*;RM*;WA*;WN*;DR*;GROS*;EQ*	Gray;EQ$;Green

Starts with([Type], 'SWF') Edit Filter

- **Layers**. In the Additional Layers property, specify the layers of the drawing that's should be in the background layer group.
- **Colors**. Use the Color Mapping property if you want the layers to print in a different color than they appear in CAD or BIM. For instance, you might want all architectural plan lines to appear in a background grey color rather than red, yellow and the other colors used to draw them.
- **Type**. Use a SWF type rule to have your backgrounds appear in the Space Console; use a SWF and EMF rule to have your background appear in the Space Console and in PDF and DOCX reports. Any rule of these two types will appear in the Select Back ground Layers dialog.
- **Suffix**. Use a Rule Suffix. The Publish Enterprise Graphics command publishes a separate enterprise graphics file for each drawing and rule. The rule suffix makes the name of this layer group file unique from all other background layer groups.

Help Topic - Publishing Enterprise Graphics

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/smart_client_cad/Content/cad/get_started/publish_ent_graphics.htm

Help Topic - Controlling How Enterprise Graphics are Published

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/smart_client_cad/Content/cad/get_started/publish_ent_graphics_options.htm

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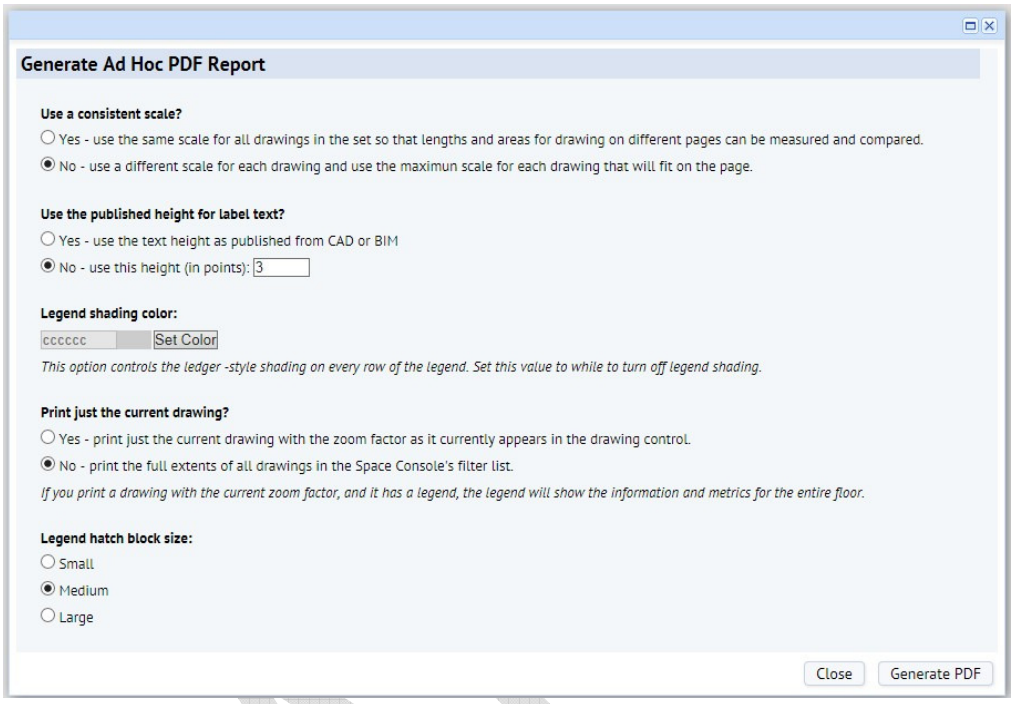
Generate Ad Hoc PDF Report Command



In many situations, you need to respond to *ad hoc* queries. You want to filter to a set of drawing data and create an *ad hoc* report with just that information in it.

The Generate Ad Hoc PDF Report command fills this need. It obeys the Plan Types and Back ground Layers setting so that you can select your visible text fields, highlight styles, legends and drawing layers.

The command has *ad hoc* settings for:

- **Consistent Scaling**. You can use the identical or maximum scale for all drawings in the *ad hoc* set.
- **Label Height**. You have the option of using the height of the Asset Symbol in CAD or BIM or of specifying your own height.
- **Current Drawing**. You can print just the current view of the current drawing. This is great when you are performing an *ad hoc* query, have loaded the drawing, adjusted zoom factor and created the highlighting you desire, and you want to print what you see on your screen.
- **Legend Shading**. You can control the color of the ledger-style shading in legends.

Space Console-Improved Printing Templates

Templates and legends have a range of new features for improving DOCX and PDF output.

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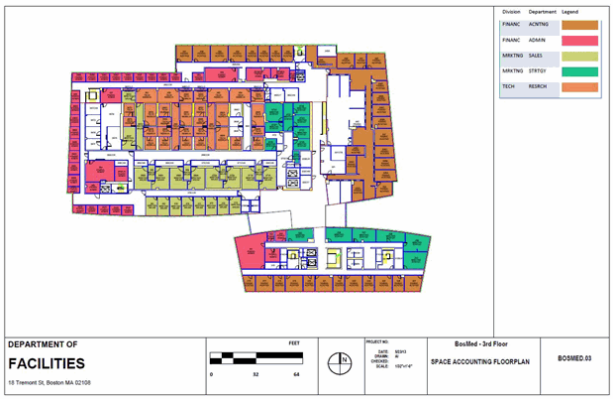

Text Position The printing action now always uses the CAD-specified text position, even for dynamically created text. This gives you the best of both worlds. If the automatic placement in CAD was fine, you have the text positioned automatically. If you used the Asset Text Set Position command to move the asset text in an irregular space, such as a corridor, then the system will use that. You must republish your enterprise graphics to use this new feature.

Leader Lines This exact text placement lets you use leader lines between text and very small rooms, such as telecom equipment rooms which are too small to hold the label text. The convention is to place the leader lines on the Asset Text layer or the A-LEDR layer.

Hatch Patterns. PDF plans now display hatch patterns.

Title Block Variables Three new variable macros – new m across {bl_ name}, {site_ id} and {sit name} -- display the Building Name, Site Code or Site Name in the position you place them in the title block.

Legend Templates You can now have a configurable set of fields displayed for the legend templates. This set of fields is defined in the Plan Type. If you have a large number of columns shown in the legend, you can display the legend on a separate page from the drawing. You configure which columns of data show in the legend using one of the data sources of the view file.

Help Topic - Options for Printing Drawings from the Space Console

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/quick_start/Content/web_user/space/inventory/space_mgr/print_drawing.htm

Help Topic - Options for Printing Drawings to PDF and Doc Formats

http://www.archibus.com/ai/abizfiles/v21.3_help/system_management_help/afm-sysman.htm#wc_views/simple_views_techniques/print_drawings_to_pdf_and_doc.htm

The doc file templates use elements to control the printed output, elements such as the legend Heading, legend Data, legend Data RJ, legend Total Heading, legend Total Data elements.

Help Topic - Publishing Drawings with Leader Lines

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/smart_client_cad/Content/cad/get_started/leader_lines_publish.htm

Path - Drawing Template with Legend on Separate Page

http://localhost:8080/archibus/schema/ab-products/solutions/parts/pagereports/ab-ex-custom-dwg-legend-page-rpt.axvw

The example above refers to this template file:
\schema\ab-products\solutions\parts\pagereports\report-cadplan-imperial-landscape-17x22-legend-page.docx

Path: Drawing Template Showing Scaling and Parameter Passing

http://localhost:8080/archibus/schema/ab-products/solutions/parts/pagereports/ab-ex-custom-dwg-rpt.axvw

DRAFT

Path: Drawing Template without Scaling (Zoomed to Fit)

http://localhost:8080/archibus/schema/ab-products/solutions/drawing/ab-ex-drawing-rpt-pdf.axvw

System Enhancements

This release adds formal support for:

- JBoss EAP 6.2 and6.3
- Java SE Runtime Environment8
- Spring Framework4.2
- Microsoft SQL Server2014

Help Topic – System Requirements

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#single_user_install/System_Requirements.htm

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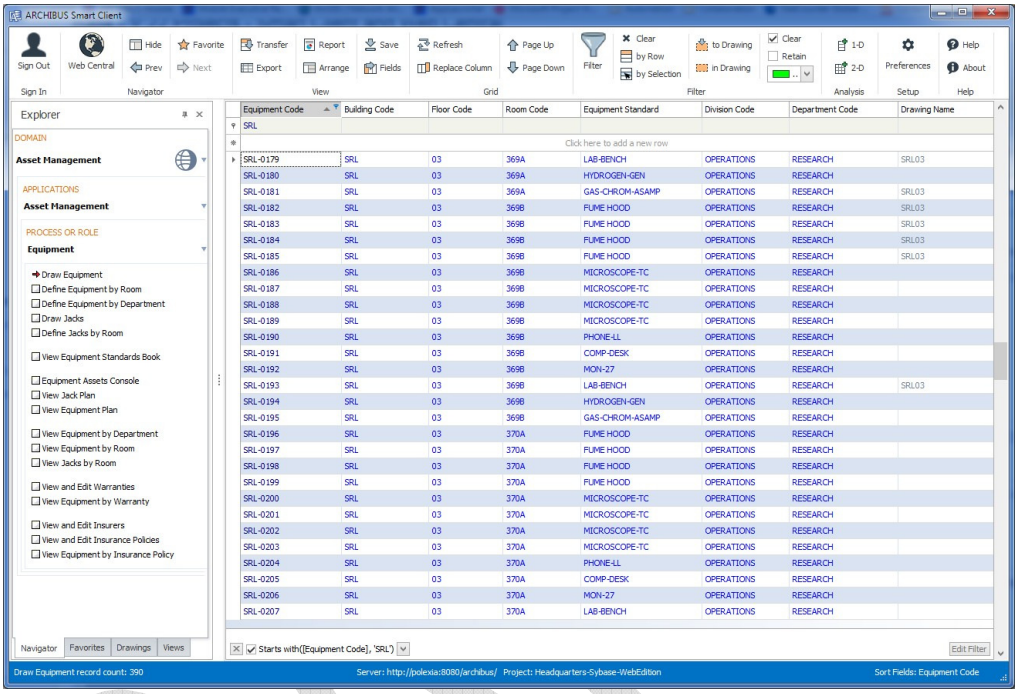
Smart Client

New features and a fresh new look speed the work for business analysts and process owners as well as CAD and BIM specialists.



Smart Client Extension for Revit

The Smart Client Extension for Revit contains substantial advances in managing large Revit models, linked Revit models, and filtering and numbering large quantities of elements within models. It also contains new features for synchronizing deeper details about your Revit models and families with the unifying ARCHIBUS meta-data structure and database.

The new enhancements greatly increase the speed with which you can connect even large models with tens of thousands of elements within ARCHIBUS.

Revit2016Support

V.22.1 formally supports Revit Architecture 2016 and Revit MEP2016.

Linked Models

When working with equipment, BIM practitioners often link the architectural model into the MEP model. Within this scenario, the ARCHIBUS Extension for Revit can reference ARCHIBUS rooms within the architectural model. The Extension commands will automatically check for this configuration on startup, and all commands will automatically recognize and make use of the Room elements in the Architectural model from within the MEP model. As an example, when the Catalog command runs on MEP equipment elements, the command can determine the enclosing Room in the architectural model, and automatically infer that Room Code as the equipment location.

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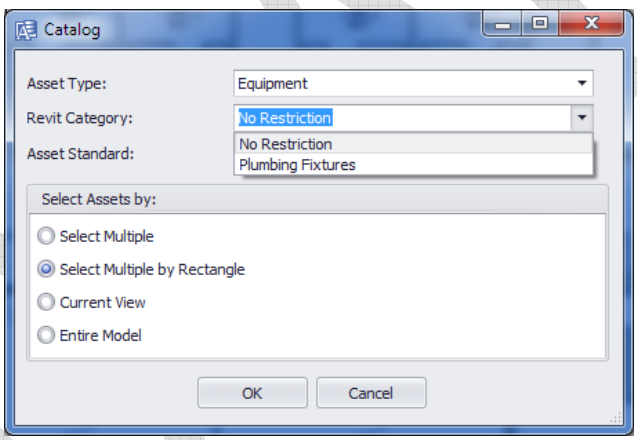
Filtering Large Numbers of Elements

Often you want to invoke a command, like Catalog or Number, on only a subset of the elements of a model. For example, there may be instances of both Air-Handler and Electrical-Equipment in a model, and you may wish to work just on the Air-Handlers.

The Extension adds a series of filters for Revit elements, which the new Extension commands apply as appropriate.

Filter	Examples	Enhancement
Asset Types	Rooms, Equipment	Where possible, will restrict the list of Asset Types to just the list relevant to the current command action.
Revit Category	Walls, Doors ,Electrical Equipment, Furniture ,Mechanical Equipment,	Where possible, will restrict to just categories appropriate for the current asset and current view.
Revit Family	Furnace, Radiator- Hydronic Baseboard, Boiler, Square Supply Diffuser	Where possible, will restrict to just families belonging to the currently selected Revit Category.
Revit Family Symbol	Square SupplyDiffuser|24"x24"	Restricts to just Family Symbols for the current Family.
Asset Standard	Office Type-A[OFF-A]	Restricts to assets of the specified ARCHIBUS standard

Catalog



The Catalog command can now filter by Category and ARCHIBUS Asset Standard.

Help Topic - The Catalog Command

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/smart_client_cad/Content/revit/commands/catalog_cmd.htm

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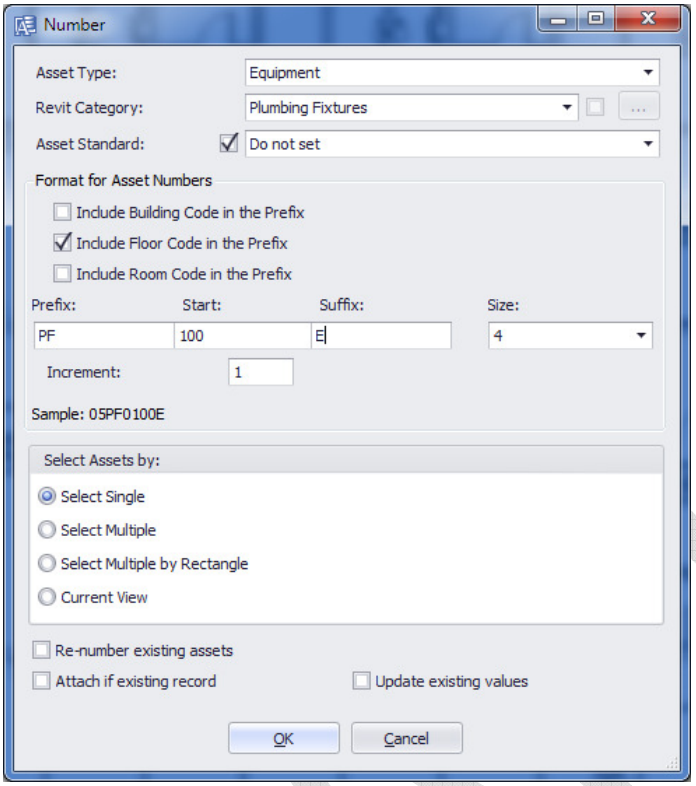
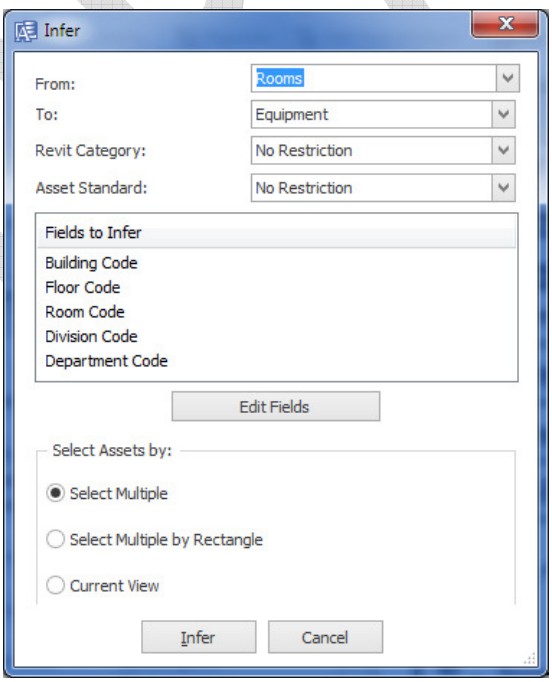
Number



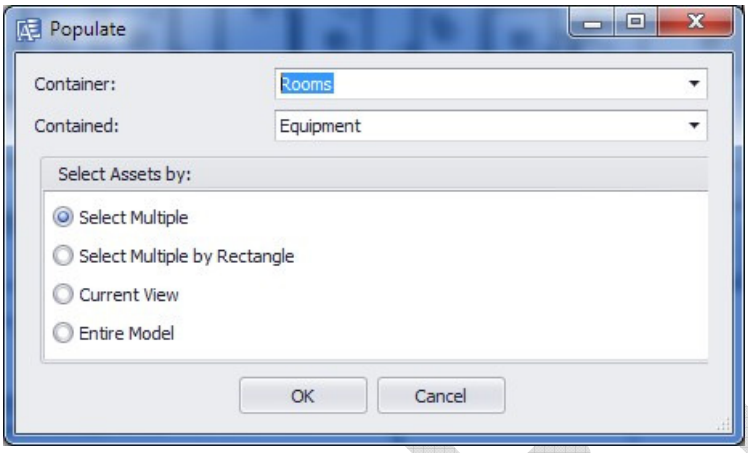
The Number command now supports Revit Category and Standard filters. It also adds a powerful feature for automatically numbering multiple assets in one step.

Infer



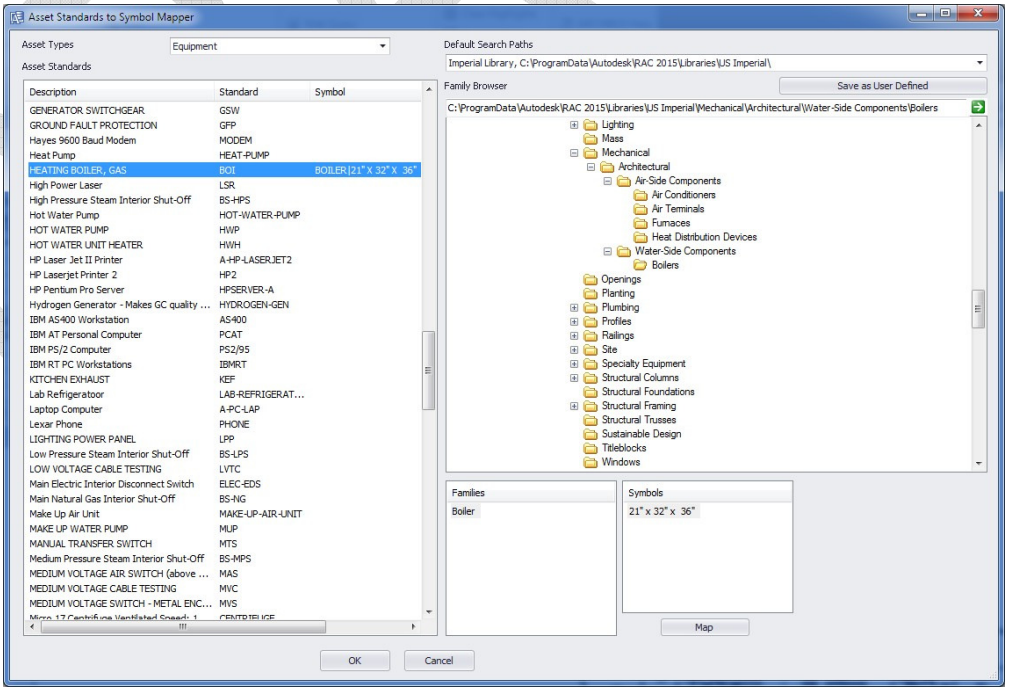
The Extension now includes an Infer feature to automatically assign values, such as Division and Department Codes -- from a containing asset. For instance, in one step, you can infer values from Rooms to all of the Equipment items residing in the rooms.

Populate



The Extension now contains a Populate command for using a data-driven means of adding assets such as equipment and jacks to your drawing. To Populate, you first create a list of items for an area -- such as equipment for a room. This can come from manual entry, import, or mobile barcode inventory. Now invoke Populate to insert an equipment symbol for each item into your Revit drawing so you can manage it and publish it to the Web.

Asset Standards to Symbol Mapper



In order to populate assets, you need Family Symbol names inserted into the appropriate ARCHIBUS standards table so that ARCHIBUS knows what graphic goes with each data record. The Asset Standards to Symbol Mapper dialog helps with this task. It lists the

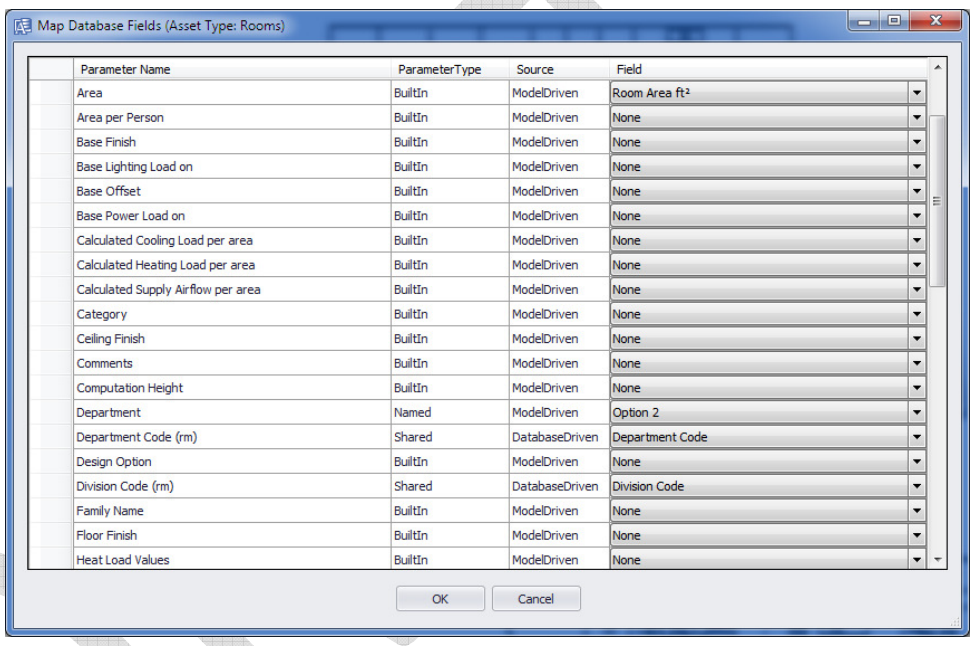
ARCHIBUS standards table (for the chosen Asset Type on the left). For instance, it would list the Equipment Standards table for Equipment assets. The dialog lists Revit's catalog of Family Symbols on the right. If you choose the two to pair and select the "Map" action ,the Extension will load the Family Symbol into your model and insert the name into the ARCHIBUS standards table.

Navigation Path

Extension for Revit Ribbon Menu/Synchronization/Asset Standards to Symbol Mapper

Type Parameters in Revit

The Extension for Revit can now map type parameters to the ARCHIBUS database. This means that if you have standard values stored as parameters in Revit Families, you can catalog them to the ARCHIBUS database for reporting and analysis. This change lets you mine the wealth of information stored in Revit Families.



Navigation Path

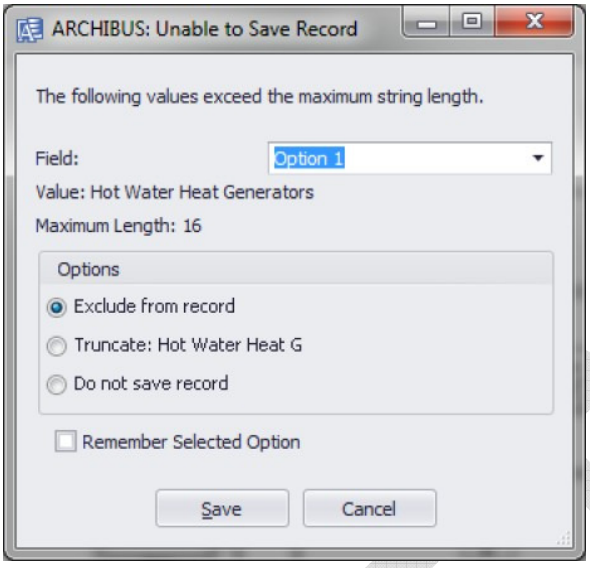
Extension for Revit Ribbon Menu/Synchronization/Map Database Fields

Help Topic - Map Database Fields Command

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/smart_client_cad/Content/revit/commands/map_db_fields_cmd.htm

Correcting Long Values In Edit Data

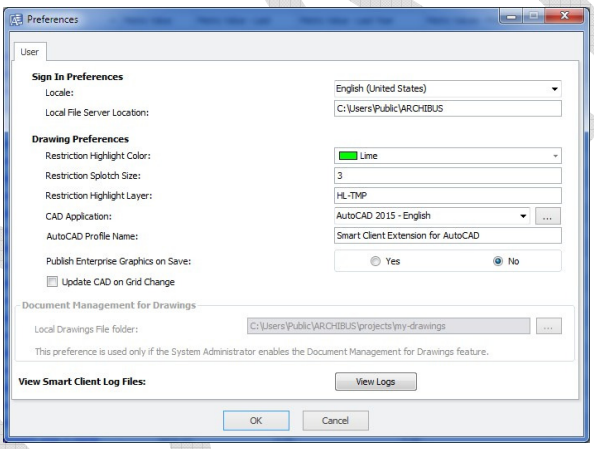
In some cases, values in Type parameters are too long to save in the database field. Edit Data now includes a feature to manage the corrections to these values systematically.



Elements Not Associated with a Revit Level

The Extension can now Catalog and edit Revit elements that are not associated with an explicit Revit Level -- as is the case with elements like HVAC Supply and Returns. The extension uses the 3D elevation of the elements to infer the correct level.

Update CAD on Grid Changes



A new per-user preference controls whether changes made in the Smart Client grid are automatically updated in the BIM model or CAD drawing, if currently open. The Smart Client will sync renamed identity fields (e.g. the Room Code or Equipment code) and model-driven values. The Smart Client will respect the setting on model-driven values – those that should always originate from the model -- and not update those values.

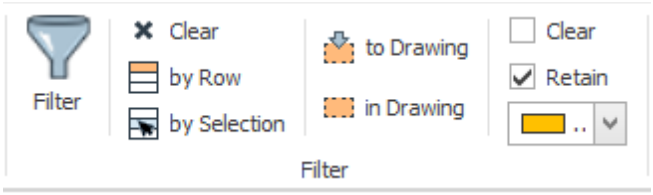
Navigation Path

Smart Client/Preferences form

Smart Client Extension for AutoCAD

Supports AutoCAD 2016 and Autodesk Architecture 2016. Now supports AutoCAD2015and 2016 on Windows8.

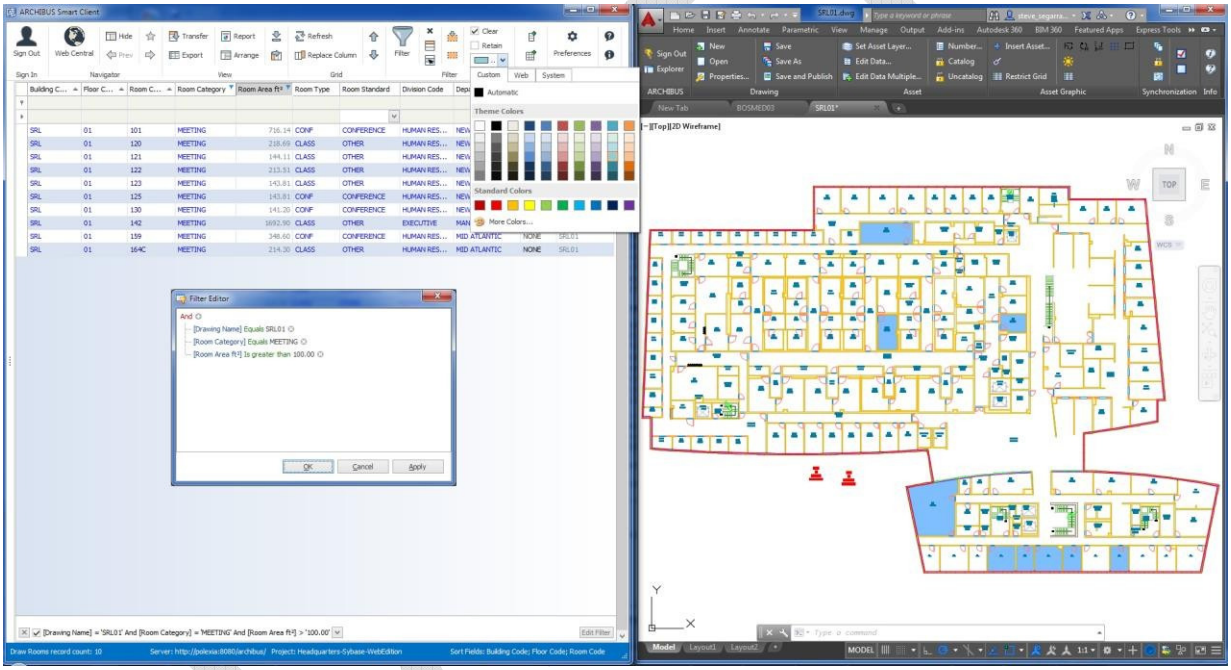
Highlighting Complex Criteria



The Extension has enhanced the features for working back and forth between the Smart Client view and the CAD view of your data.

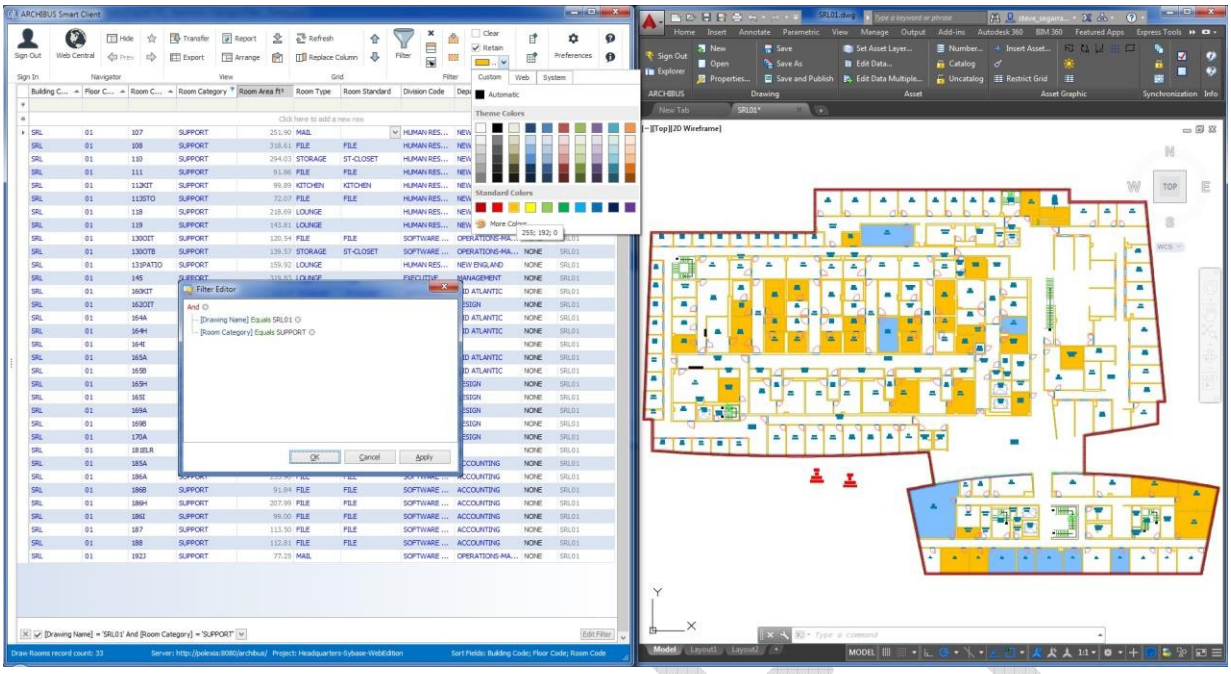
As always, you can filter the grid to all or some of the assets that appear in the current drawing, and you can find or highlight grid items in the CAD play.

In addition, the "Highlight in Drawing" command can now automatically take the current restriction highlight, even if this is on complex criteria, and highlight assets in the drawing. For instance you can quickly find all meeting rooms with an area greater than



Highlighting Multiple Criteria

The Smart Client has new controls for highlighting multiple criteria. For instance, if you uncheck the "Clear" button, you can add a separate criterion using a different color to the existing highlight. Below we see support space highlighted beside the meeting



You can add as many criteria as you like. If you want to save one set of criteria while you work on an additional set, use the "Retain" option to copy the current highlight (HL-TMP)to a new layer (HL-TMP-RETAIN) for safe keeping.

Update CAD on Grid Changes

Just as in Revit, this feature works in AutoCAD as well. A new per-user preference controls whether changes made in the Smart Client grid are automatically updated in the BIM model or CAD drawing, if currently open. The Smart Client will sync renamed identity fields (e.g. the Room Code or Equipment Code) and model-driven values. The Smart Client will respect the setting on model-driven values -- those that should always originate from the model –and not update those values.

Windows Client/Server AutoLISP Compatibility

For those who are migrating a Windows Client/Server deployment to the Smart Client Extension for AutoCAD or who are using the Smart Client Extension for AutoCAD against a database that supports Windows Client/Server applications, V.22 rounds out the AutoLISP support by providing compatibility functions for Windows Client/Server AutoLISP. Stack command, trial layer commands, Prompt Field capability, data access, and nearly all of the Windows Client/Server AutoLISP functionality is provided as examples of how to run Windows Client/Server AutoLISP within the Smart Client Extension for AutoCAD or how to run your existing AutoLISP with a minimum of changes.

Notice that SQL execution from AutoLISP is disabled by default and discouraged for security reasons. Use the new record set functions. If you need this function for compatibility, you can enable it in the ARCHIBUS Workflow Rules view.

Help Topic - Commands Not on Menu

This topic lists the compatibility LISP routines.

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/user_en/archibus.htm#../Subsystems/smart_client_cad/Content/ref_doc/overlay/cmds_not_on_menus.htm

Path to AutoLISP

c:\Program Files(x86)\archibus\22.1\SmartClient\acad\afm_compatibility*.lsp

Add-in Manager Enhancements

This release makes the following enhancements for add-in managers personalizing the product.

GIS Enhancements

Google and ESRI Support

Geospatial intelligence is key for visualizing business data. GIS features can locate a wide range of activity -- on buildings, capital projects, work requests, reservations, moves, vacancies, leases -- within a common operating picture that gives you intuition and insight that you could not gain by reviewing the information alone.

In V.22, you can now use either Google or Esri map content or a mixture depending on which map layers and background content you prefer. Each provider offers a rich set of real-world context for your business information. For instance, Google provides locations of nearby businesses and features. Esri provides data such as satellite imagery, topography, and roads and sites, and you can license use of advanced data sets, such as demographic data.

Users of Google maps who generate a high-volume of queries (25,000 map loads per day) should review Google's licensing policy.

A new ARCHIBUS Standard Map control based on the Leaflet API delivers all of the standard map functions using either Esri or Google content. These functions include map display, map layer selection, geo coding, asset location, marker click actions, single and multiple data source support.

The new universal map control supports a wide range of markers:

Simple. Markers denoting location.	
Thematic. Markers themed in color by data category or bucketed data ranges.	
Graduated. Markers graduated in size by data value or bucketed data ranges.	
Thematic-graduated. Themed by data category and graduated by data value.	
Proportional. Proportional to real-world distance (as you might use to display an evacuation radius	

Map Types

The Path: Technologies / User Interface Add-Ins process has a section on Standard Maps-Leaflet API which illustrates the display, layer selection, geo coding and display features .A selection of the features is below.

Clustered markers are fantastic for displaying a large number of locations. Clustered markers group locations together where there are a large number of markers in one area. When you zoom into that area, the clustered markers resolve into smaller clusters and then individual markers. Whether displaying buildings, room reservations, work orders, project locations, or sensor results, clustered markers can make quick sense of a large amount of information.

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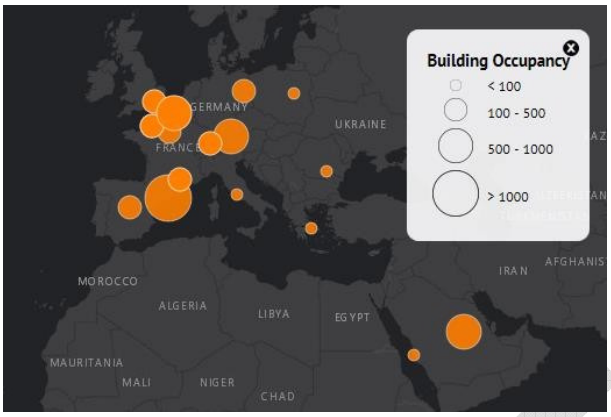
Maps with multiple data sources can show multiple types of information, such as buildings and properties, on the same map.

Thematic markers show data themed by category, such as buildings themed by building use.

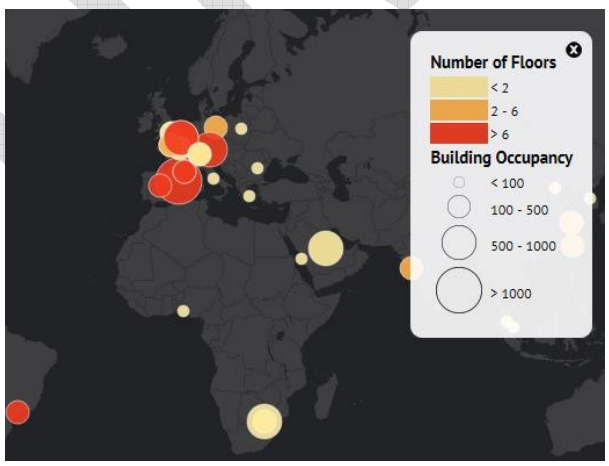
Thematic class-break markers show data themed by bucketed ranges.

Graduated class-break markers show data sized by bucketed ranges.



Thematic graduated markers can show multiple dimensions of data simultaneously.

Thematic, class-break graduated markers show multi-dimensional data in bucketed ranges.



Thematic, unique-value proportional markers can simultaneously show both themed data, such as building use, and real-world proportional data, such as an evacuation radius.

Thematic, class-break proportional markers can simultaneously show bucketed data ranges and real-worlds sizes.

Maps on the Home Page

Add-in Managers may wish to review the Asset Management home page descriptor as an example of a map "bucket" added to the homepage.

Path

schema\ab-products\common\views\page-navigation\descriptors\ab-navigation-home-assets-level-4.xml

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Using Enterprise Graphics and GIS

The new standard control can combine ARCHIBUS enterprise graphics published from AutoCAD or Revit with GIS content. This feature is useful for creating forms that must combine both the inside-building and outside-building view, as is the case for functions such as way finding. Using enterprise graphics is a useful alternative to publishing all interior elements to the GIS server, as this technique can use generic GIS Web Services and does not require you to stand up your own server for your own GIS features.

Navigation Path

Technologies/User Interface Add-Ins/Geographic Information System (GIS)Views/Floor Plan Geometry from JSON(Leaflet)

http://localhost:8080/archibus/ab-leaflet-map-geometry-from-json.axvw

Web Central Controls

Markup Control

The markup features in the Strategic Space Planning and Asset Management applications are built on a core control that can be used for different purposes. The control has two modes--one for marking up drawings; one for marking up bitmaps.

Help Topic: Markup Control

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#wc_views/Adv_Views_Techniques/drawing_html5/markup_control.htm

Navigation Path

Technologies/User Interface Add-Ins/HTML5 Markup Control/Markup Control with Floor Plan

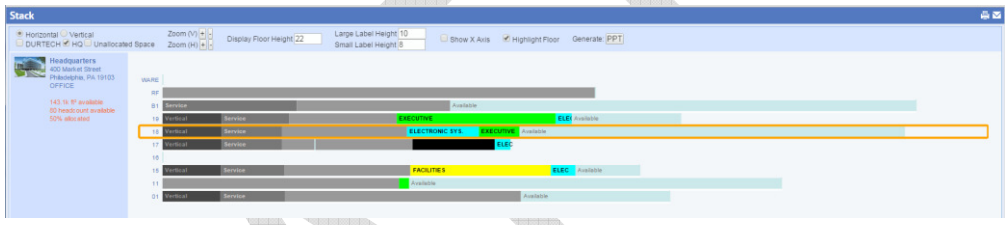
http://localhost:8080/archibus/schema/ab-ex-svg-dwg-markup-control-dwg.axvw

Navigation Path

Technologies/User Interface Add-Ins/HTML5 Markup Control/Markup Control with Uploaded Image

http://localhost:8080/archibus/schema/ab-ex-svg-dwg-markup-control-image.axvw

Stack Control



The stacking features in the Space Portfolio Planning Console are based on a core control which can be used for other purposes.

To work with the control on the stock sample data: Use the Space & Portfolio Planning Console to add a scenario called Headquarters Baseline that starts before 2015-03-04, add the HQ and BOSMED buildings to the scenario. Expand the HQ building in the Allocated Buildings panel, and delete the empty "WARE", "16" and "RF" floors from the HQ building .In ab-ex-htmlstack.js, change "DURHAM" (which is not in the sample data set)to" BOSMED".

Help Topic – Stack Control

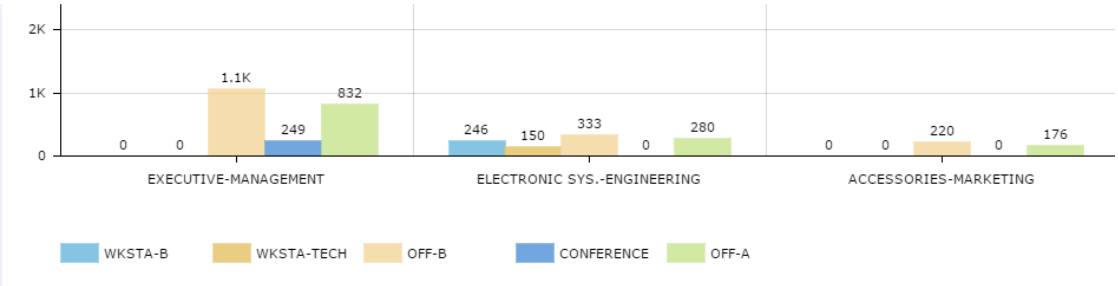
http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#wc_views/Adv_Views_Techniques/drawing_html5/stack_control.htm

Path

http://localhost:8080/archibus/schema/ab-ex-htmlstack.axvw

HTML5 Charting Control Enhancements

The HTML5 chart control now supports multi-dimensional data and secondary groupings. The control supports export of charts to PDF and bitmap files.



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Navigation Path

Technologies/User Interface Add-Ins/HTML5 Chart Views/Column Chart with One Value Grouped by Two Criteria

URL:http://localhost:8080/archibus/ab-ex-htmlchart-one-value-mult-criteria.axvw

Navigation Path

Technologies/User Interface Add-Ins/HTML5 Chart Views/Drill-down to a Chart with Secondary Grouping

URL:http://localhost:8080/archibus/ab-ex-htmlchart-drill-down-report-from-2d.axvw

Mobile Framework

Framework Enhancements

Platform Support This release adds formal support for iOS 8, Android 5.1, and Windows8Mobile.

Mobile Client Logging Framework This framework writes log messages to the console, the device log or the device database. Logged messages are synced to Web Central and viewed in WebCentral.

Mobile Document Storage A new system-wide application parameter(Store Mobil Docs And Plans In Device Db) controls whether mobile devices that down load documents and floor plans store them in the database or in the device file system.

Session Handling Changes to the synchronization session simplify the mobile data sync process significantly. The framework uses JavaScript Promises to simplify a synchronous code and error handling. The synchronization session now opens a single session for the sync rather than one for each table or workflow rule call.

UI Control Enhancements

Full Screen Calendar Control The Common control. Calendar class and the Common. control field. Calendar offer this new control, which many find more convenient than the scrolling control.

Editable Spinner Control This new control lets you either edit or use the spinner to select numeric values

Display URL Control. You can have the framework download a document specified in a URL in a text field and display it. Please note that the display works differently on different mobile devices.

Text Area Control A text control that uses the underlying functionality of each mobile device improves the usability of the text control, as the native views support better scrolling and editing of multi-line text.

Bar coding in Search Control. The search control now has an option to display a barcode icon and apply the result of the barcode scan to the search criteria.

API Enhancements

Documents on Demand The framework can now sync documents on demand. This is useful for large documents, such as maintenance manuals or BIM model extracts, that you don't want to sync all at once. Instead, you sync the rest of the data, and then sync there cord with the individual document that the user requested. See the Document Download and File Download examples in the Solution Template mobile app.

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Deleting Documents The framework supports marking some documents as deleted. See Mobile Sync Service Integration Test. Test Check In Records Check Out Records Mark Deleted () as an example.

Other Enhancements

Eclipse Version

ARCHIBUS now ships ARCHIBUS Eclipse V.22.1 with settings that default to JRE1.6.

ARCHIBUS Connectors

COBie Support. Rules and a connector type support import COBie formatted data from Excel.

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#connectors/xls_sheets.htm

EDI Connector Type The EDI Connector type supports a hierarchy of record types in a text file, where these record types are identified by leading values.

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#connectors/edi.htm

Document Management Rule The per-record UPLOAD DOCUMENT rule has been reintroduced from Connectors2.0.

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#connectors/rules.htm

Cache Validating Data The POPULATE TABLE and VALIDATE ADD rules can now cache validating data. This feature has been reintroduced from Connectors2.0.

Populate Transaction Rule. A new POPULATE TRANSACTION rule copies values from an ARCHIBUS data record into the transaction record.

Aggregate Function Rule A new type of rule can run a function -- sum, max, min, etc. –to determine the output value.

http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#connectors/define_rules.htm

Configuration and User Information The Set Value action allows you to use and record information about the connector that performed the update -- such as the Connector ID –or the user that invoked the connector -- any value available through Context Store. get ().get User(). For example you can use the requesting user's per-user locale to properly convert units.

Document Management The per-connector parameters for exporting to document management as well as to files have been reintroduced from Connectors2.0.

Relative File Paths Connection Strings and UPLOAD DOCUMENT rule now support file paths relative to the web application.

External Fields Schema Field now identifies input fields which do not correspond to an ARCHIBUS field. External fields can be imported and used in rules, but not assigned to a field in a table.

Overwrite Controls. Two new connector parameters – support Updates and support Inserts-- control whether the connector will allow updates to existing records or insertion of new records. Another parameter compare Fields determines if a connector will compare values and not update values that did not change. This last parameter can be used to minimize logging changes and the number of changes that trigger dependent data change events.

Parameterized Database Drivers Database connectors may now specify in parameters a custom driver to use.

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Export from Data Source. The connector parameters to export from a data source rather than a table have been reintroduced from Connectors2.0.

Alternate Character Encodings Support for textual formats that use different character

encodings is supported via the Character Encoding parameter. The encoding defaults to the system default, typically UTF-8, if no coding is specified.

Logging Connector logs are now stored in a table (afm_ conn_ logh) rather than being deleted on each in vocation.

LDAP Protocols Added connection parameter security Protocol:"starttls" as well as security Protocol:"tls" which will force the connection to use TLS 1, 1.1 or 1.2 and not SSL3.

Database Update Wizard

Now has a Run Script feature for adding tables, fields, indexes and data to your database. The feature can invoke the ARCHIBUS features to alter tables and recreate tables and can refresh he ARCHIBUS data dictionary and workflow rules registry. With this set of features you can create scripts to import data and features in a form that will run identically on Oracle, Microsoft SQL Server and Sybase.

You can use this feature to document, test and stage your database personalization in a repeatable way. Or use this feature to distribute the database elements on which our ARCHIBUS Add Ins depend to other sites or customers.

Help Topic - Database Update Wizard – Run Script:
http://www.archibus.com/ai/abizfiles/v22.1_help/archibus_help/system/sysman.htm#update_wiz/run_script.htm

Drawing Printing

The drawing printing features used in the Space Console can be loaded dynamically from your own personalization.

Load Data Sources from JavaScript

A new API element Ab data load Data Source From File, returns a view definition onto JavaScript, where you can retrieve data sources, add parameters, and add restrictions. The Space Console uses this to provide *ad hoc* control over highlight templates.

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