



Security X-ray

User manual

Who can open a D365 page and why, which licence it needs, and where licences can be saved

Product	Security X-ray, browser extension for Microsoft Edge and Google Chrome
Works with	Microsoft Dynamics 365 Finance & Operations (read-only)
Version described	1.0.0
Document date	15 October 2026
Publisher	PW Scan IT BV, trading as Scan It Labs
Support	support@pwscanit.com

All screenshots in this manual were taken from the extension running on a synthetic demo tenant: the users, roles, companies and figures are invented sample data (the fictional company is Contoso). They show the extension's own screens; the browser frame and the D365 page are not shown. The yellow "demo" badge in the side panel screenshots appears only in this demo mode.

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1. Introduction

1.1 What Security X-ray is

Security X-ray is a browser extension for Microsoft Edge and Google Chrome that works on top of **Microsoft Dynamics 365 Finance & Operations (D365 F&O)**. It answers security questions next to the page you are working on: who can open this page and why, what a user can do, what a role really grants, which licence that access needs, and where a licence can be saved.

It has two parts:

- **The side panel (free).** It opens next to any D365 page and shows who can open that page in the current company, with the role, duty and privilege that grant it, Deny rules, company limits and the licence the page needs. Users without administrator rights see **My access** (Self mode): what they themselves can open, and what to ask for.
- **The workspace (paid).** A full browser tab for the whole environment: an overview with hygiene findings, the licence optimiser and savings report, the import of Microsoft's licence report, inactive users from the User log, Find role, segregation of duties, snapshots and exports.

The extension is **read-only**. It never changes anything in D365. It reads the security setup with your own D365 session and your own rights, and it analyses everything inside your browser. No D365 data is sent anywhere else.

1.2 Who this manual is for

Reader	Use these chapters
Security administrators	Chapters 3 (side panel), 4 (workspace overview), 7 (Find role), 8 (segregation of duties) and 9 (snapshots).
Licence owners, IT and finance managers	Chapter 5 (licences and the licence optimiser), chapter 6 (licence data from D365 files) and section 15.3 (how results compare with D365).
Auditors and internal control	Chapters 8 (segregation of duties), 9 (snapshots), 10 (exports) and 13 (security and privacy).
Any D365 user	Section 3.11 (My access): can I open this page, and what should I ask for?
IT staff who roll out the extension	Chapter 2 (installation and company-wide rollout), chapter 12 (licence and trial) and chapter 13.

1.3 Free and paid features

Feature	Where	Licence
Page lens: who can open this page, with Users, Roles and Buttons tabs	Side panel	Free
User X-ray and Role X-ray	Side panel (also in the workspace drawer)	Free
My access (Self mode) for users without administrator rights	Side panel	Free
Custom security import (security export from Data management)	Side panel ⚙ and workspace	Free in the side panel
CSV of the page lens and of a role's pages	Side panel	Free
Overview and hygiene findings	Workspace	Licence or trial

Feature	Where	Licence
Licences: estimate, role fixes, what if, savings report, Microsoft's licence report, inactive users	Workspace	Licence or trial
Find role	Workspace	Licence or trial
Segregation of duties	Workspace	Licence or trial
Snapshots and comparison	Workspace	Licence or trial
Exports from the workspace (CSV, savings report, snapshot files)	Workspace	Licence or trial

The licence covers the workspace as a whole. Without a licence or trial the workspace shows only the activation panel, and nothing in it reads D365. Chapter 12 explains the trial and the licence.

1.4 Conventions in this manual

How names are written

Buttons, tabs and fields are written in **bold**, exactly as they appear on screen, for example **Run full analysis**.

D365 object names (menu items, roles, duties, privileges, tables) are written in **this font**, for example **CustTable** or **CustInvoiceAccountsReceivableManager**.

A path through D365 menus is written with ›, for example System administration › Security › Security configuration.

1.5 Version covered

This manual describes **Security X-ray 1.0.0**. The standard security metadata it uses to explain paths and licences (the Security Atlas) is built from D365 F&O application version **10.0.49**. The version of your extension is shown at the bottom of the settings: Security X-ray 1.0.0 · © 2026 PW Scan IT BV.

2. Installation and first start

2.1 Requirements

- **Microsoft Edge or Google Chrome, version 120 or later.** The extension uses the browser's side panel.
- **A D365 Finance & Operations environment** on a Microsoft-hosted address (`*.operations.dynamics.com`, the regional variants such as `*.operations.eu.dynamics.com`, sandbox addresses, the US government clouds, and cloud-hosted development addresses such as `*.cloudax.dynamics.com`). An environment on another address (a proxy or a custom domain) can be added with **Enable on this site** (section 2.5).
- **Your normal D365 sign-in.** The extension has no D365 user of its own. It reads with your session and can only read what your roles allow.

D365 rights for full results

Your D365 rights	What you see
Rights to read the security setup (as a System administrator or Security administrator has)	The admin view : who can open each page, all users and roles, the Workspace button, and every workspace feature (with a licence or trial).
Any other user	My access (Self mode): only your own access to the page you are on, and which standard duties to ask for. The workspace cannot be opened, because it needs the admin view.

The panel decides this by itself. When D365 refuses to give the security setup to your account, the panel shows the badge **my access** and the note "Your account cannot read the tenant's security setup (that needs System or Security administrator). Showing your own access only."

2.2 Install from the store

Security X-ray is published by Scan It Labs (PW Scan IT BV). Install it from its listing in **Microsoft Edge Add-ons** (Edge) or the **Chrome Web Store** (Chrome): search for "Security X-ray" and check that the publisher is Scan It Labs, then click **Get** (Edge) or **Add to Chrome**. The browser shows the permissions the extension asks for; section 13.4 explains each one.

Store installations update automatically.

Install from a download we provide

If we sent you the extension as a file (`security-xray-1.0.0.zip`), install it this way:

1. Unzip the file to a folder that stays, for example `C:\Tools\SecurityXray`. Do not use Downloads or a temporary folder: the browser runs the extension from this folder.
2. Open `edge://extensions` (Chrome: `chrome://extensions`).
3. Turn on **Developer mode** (Edge: bottom left; Chrome: top right).
4. Click **Load unpacked** and select the folder that contains `manifest.json`.
5. For a new version, unzip it over the same folder and click **Reload** on the Security X-ray card.

Only install the extension from the store listing or from a download we provide or publish. The terms of use do not allow copies from other sources.

2.3 First start

1. Pin the extension: click the puzzle-piece icon in the browser toolbar and choose the pin next to **Security X-ray**.
2. Open D365 F&O and sign in as usual.
3. Click the Security X-ray icon. The side panel opens next to the page.
4. The panel reads the users, roles and role assignments ("Reading users, roles and assignments..."). On a large environment this takes up to half a minute the first time. After that the data comes from the browser's cache (section 11.3).

When the active tab is not a D365 page, the panel says so:

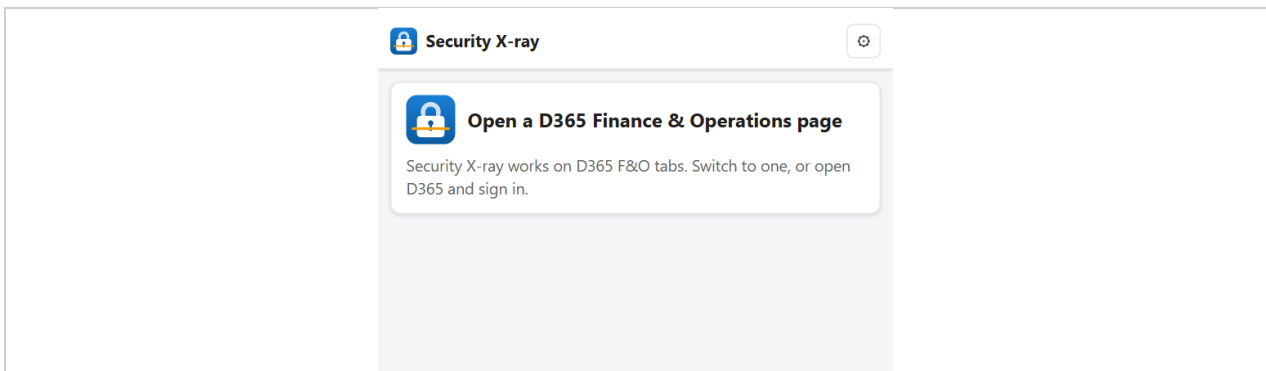


Figure 1. The side panel on a tab that is not D365.

If the panel shows an error after you installed or updated the extension while D365 was already open, reload the D365 tab (F5) and click **Retry**.

2.4 Opening the settings

The settings are in three places with the same content: ⚙ in the side panel, ⚙ **Settings** in the workspace, and the extension's options page (right-click the Security X-ray icon › **Extension options** in Edge, **Options** in Chrome). Chapter 11 describes them.

2.5 D365 on a custom address: Enable on this site

If your company reaches D365 through a proxy or a custom domain, the panel shows "Is <host> a D365 F&O environment on a custom address (proxy, custom domain)?" with the button **Enable on this site**. Click it. The browser asks permission for that one site; Security X-ray then checks that the site really is D365 F&O. Only https pages can be enabled. The sites you enabled are listed under **Sites enabled by you** in the settings, with **Remove**.

2.6 Company-wide rollout (for IT)

Edge and Chrome can install the extension for everyone through browser policies (Group Policy, Intune or another device management tool). Use the extension ID shown on the store listing (also visible on `edge://extensions` or `chrome://extensions` after a manual install).

Browser	Policy	Value
Microsoft Edge	<code>ExtensionInstallForcelist</code> (or <code>ExtensionSettings</code> with <code>installation_mode</code> <code>force_installed</code>)	<extension ID>;https://edge.microsoft.com/extensionwebstorebase/v1/crx

Browser	Policy	Value
Google Chrome	<code>ExtensionInstallForcelist</code> (or <code>ExtensionSettings</code>)	<extension ID>;https://clients2.google.com/service/update2/crx

Things to know for a rollout:

- The extension has no central settings. Each person activates their own licence or trial (chapter 12).
- If your organisation blocks extensions from reaching other sites, allow the D365 addresses and, for the paid workspace, the licence server `licence.pwscanit.com`.
- A D365 environment on a custom address still needs **Enable on this site** by each user, because the browser asks each user for that permission.

3. The side panel

The side panel follows the browser tab you are on. When you open another D365 page, select another record or switch company, the panel follows without a reload.

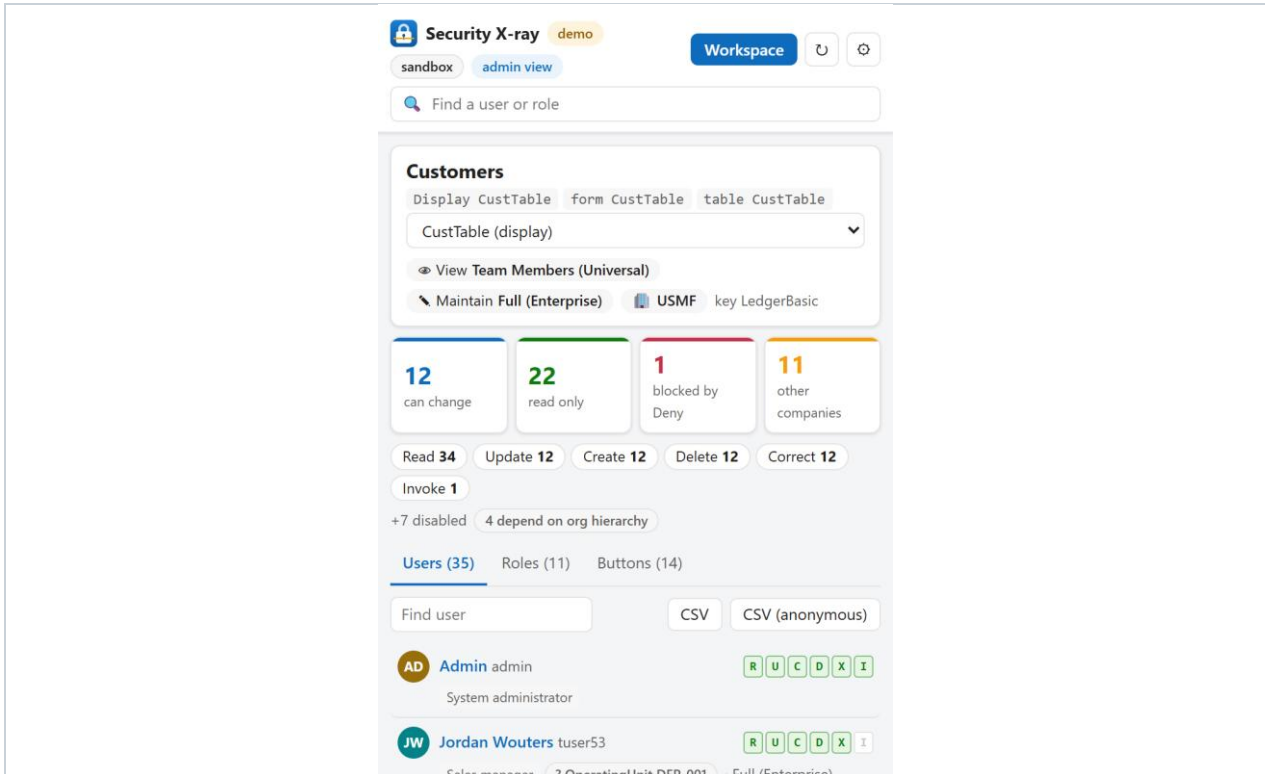


Figure 2. The side panel on the Customers page: page card, counters and the Users tab.

3.1 The top bar

Element	What it does
Security X-ray	The product name. In the demo screenshots a yellow demo badge follows it.
Environment badge	The kind of environment, guessed from the address: sandbox , prod , dev or unknown host , or a label taken from the environment name (for example UAT). An unknown address is treated like production for the safety checks.
admin view / my access	admin view : the panel reads the security setup of the environment. my access : your account cannot read it, so the panel shows only your own access (section 3.11).
Workspace	Opens the workspace in a new tab (chapter 4). Shown in the admin view only.
↺	Reload everything from D365. It clears the cache for this environment and reads users, roles and assignments again.
⚙	Settings: licence, custom security import, cache, enabled sites and diagnostics (chapter 11).
←	Back to the previous view, after you opened a user or a role.
Find a user or role	Search field (admin view). Type at least 2 characters; matching users (name, user ID, e-mail) and roles (name, ID) appear. Click one to open it.

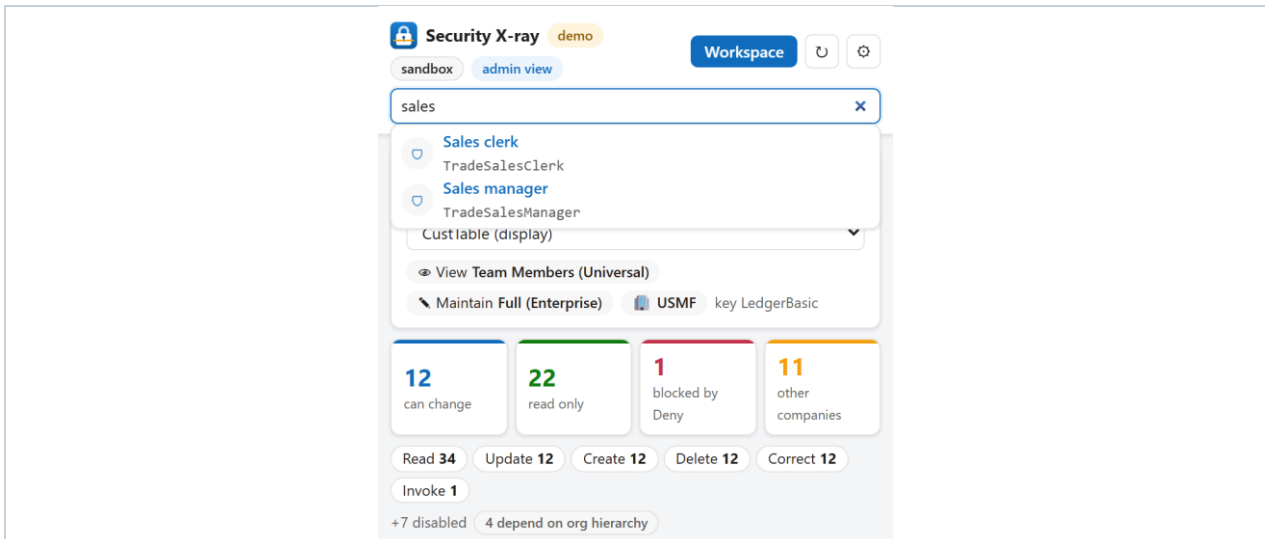


Figure 3. Find a user or role: users and roles that match "sales".

3.2 The page card

The card at the top describes the page you are on:

- The page title, and tags with the **menu item** (for example **Display CustTable**), the **form** and the **main table**. A Deny on the main table blocks the page even when the menu item is granted.
- When more than one menu item opens the same form, a drop-down lists them. Pick another one to see who can open the page through that menu item.
- **View** and **Maintain**: the licence the page needs to open it read-only, and to change data on it. These come from the standard application.
- The company of the D365 tab (from **cmp=** in the address). Roles limited to legal entities are evaluated for this company.
- A configuration key, when the page has one. When that key is off, nobody can open the page.

If the page has no standard menu item, the card says "Open a D365 page (a menu item in the navigation)", followed by the form name when the form is known but has no standard menu item.

3.3 Counters and filters

Counter	Meaning
can change	Users who can do more than read on this page in this company.
read only	Users who can only read.
blocked by Deny	Users who hold a role that grants the page, but another of their roles denies it (on the menu item or on the main table). A Deny always wins over a grant.
other companies	Users whose granting role is limited to other legal entities, so they have no access in this company.
Read, Update, Create, Delete, Correct, Invoke	The number of users per permission. Click one to show only users who have it.
+N disabled	Disabled users who hold a granting role. They are not counted above.
N depend on org hierarchy	Users whose role is limited to an operating unit or a team: access depends on the organisation hierarchy and is shown with a question mark.

Click a counter to filter the Users tab; click it again to remove the filter. When no role grants the page, the panel says "No role grants this page: only system administrators can open it."

3.4 The Users tab

Each user row shows the name, the user ID, six permission chips and the roles that grant the page.

- The chips **R U C D X I** stand for Read, Update, Create, Delete, Correct and Invoke. Green means granted, red and struck through means denied, grey means not set. Hover over a chip for its meaning.
- Role tags show the granting roles. A tag in red means the role that blocks the page with a Deny. A company tag after a role (for example **DEMF**) means the assignment is limited to that legal entity; red means a company other than the current one; a tag with **?** means an operating unit.
- After the roles: the licence this access needs.
- A **blocked** badge marks a user whose access is blocked by a Deny.

Find user filters the list. The list shows up to 300 users; the CSV has all of them. **CSV** downloads the users with their access, roles and licence. **CSV (anonymous)** replaces names by User 001, User 002 and so on, and leaves out user IDs. The files open in Excel with accents intact. Click a user name to open the User X-ray (section 3.8).

3.5 The Roles tab

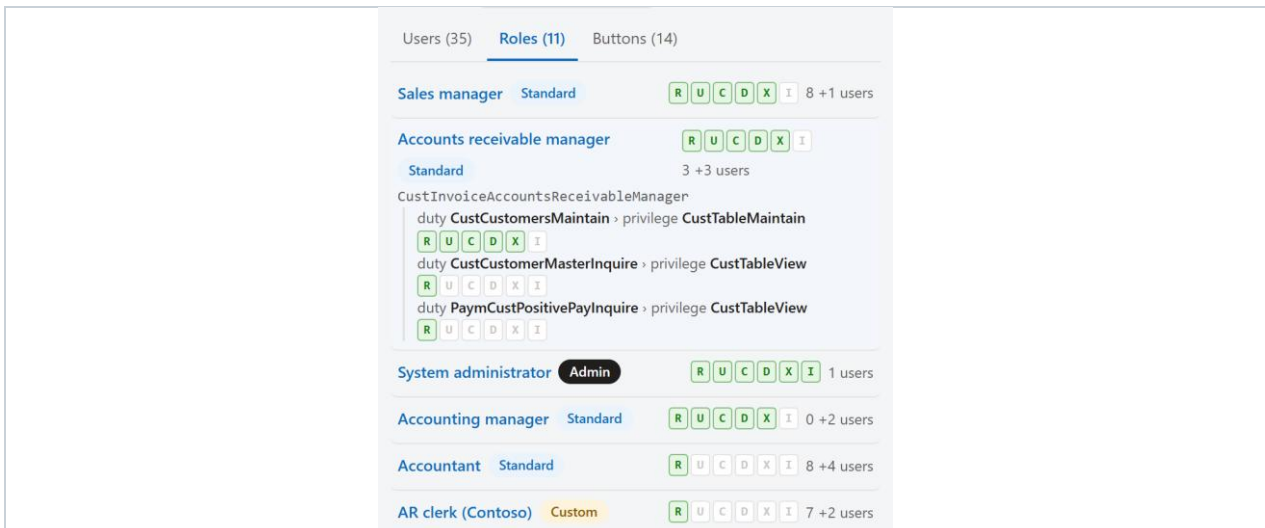


Figure 4. The Roles tab with one role expanded: the duty and privilege paths that grant the page.

Each role that grants the page is listed with its permission chips and its number of users ("8 +1 users": 8 in this company, 1 more only in other companies). A badge tells what kind of grant it is:

Badge	Meaning
Standard	A standard role. Expand it to see the path from the Security Atlas: sub-role › duty › privilege, with the access each privilege gives.
Custom	A custom or ISV role, not in the standard application. Open it to see its duties and privileges, or import the security export (section 3.10) to see the path here.
Extended	A standard role, but this grant is not in the standard application: an extension or a customisation adds it.
Admin	System administrator: full access to everything, without permission rows. A Deny never blocks it.
Deny on table	The role denies access to the page's main table, which blocks the page for its users.

3.6 The Buttons tab

Users (35) Roles (11) Buttons (14)			
BUTTON		USERS	ROLES
Create customer display CustomerquickCreate		12	3
Proposed change display CustChangeProposal		12	3
All contacts display smmContactsListPage		19	5
Contact display ContactPersonNew		12	4
Change party association action DirPartyEntityAssociationUpdateCust		12	3
Transactions display CustTrans		20	6
Global transactions display CustTransCrossCompany		20	6
Balance display CustOpenReleaseSummary		11	3

Figure 5. The Buttons tab: per button, how many users and roles can use it in this company.

The Buttons tab lists the menu item buttons on the page, with the number of users and roles that can use each one in this company. Click a button to switch the page lens to that button's menu item. Buttons that are not in the standard application (extension buttons or menus) are listed at the bottom under "Not in the Atlas".

3.7 Following the company

Change the company in D365 (top right) and the panel follows: counters change, and users whose role is limited to other companies move to **other companies**.

3.8 User X-ray

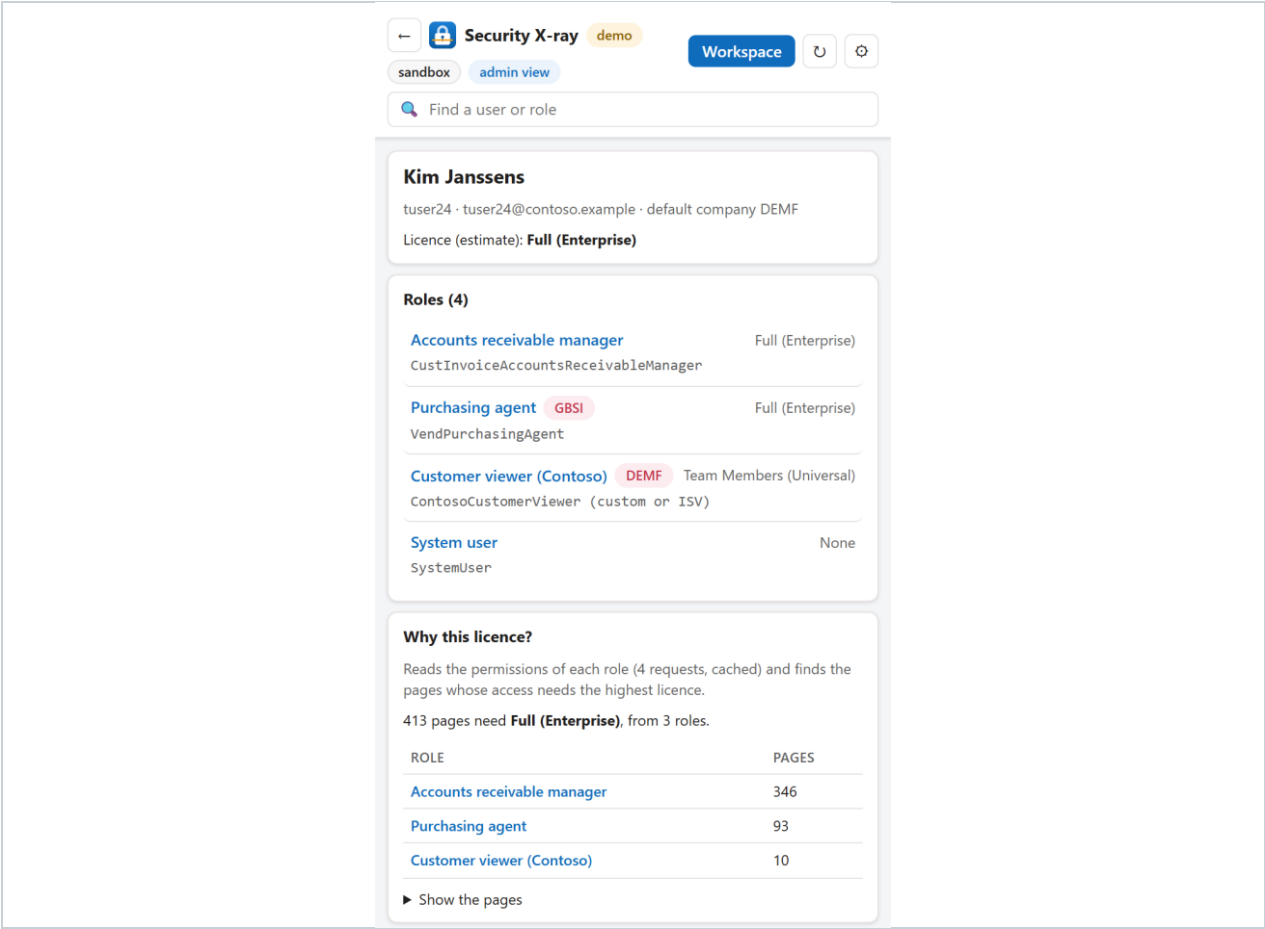


Figure 6. User X-ray: roles with company limits and licence, and "Why this licence?" after Explain.

The User X-ray shows one user: user ID, e-mail, default company, external or disabled status, and the estimated licence ("Licence (estimate)"), which is the highest licence of the user's enabled roles. System administrators show "exempt (System administrator)".

Under **Roles** each assignment shows the role name, its licence, a status badge when the assignment is not enabled, **auto** when an automatic role assignment rule assigned it, and the company limit. A role ID with "(custom, created in the UI)" or "(custom or ISV)" is not a standard role.

Under **Why this licence?** click **Explain**. The panel reads the permissions of each of the user's roles (one request per role, cached) and finds the pages that need the highest licence. It summarises per role, for example "413 pages need Full (Enterprise), from 3 roles", and when only one role needs that licence: "Only <role> needs it: without that role the licence drops." **Show the pages** lists the pages with R (read) or W (write) and the role.

The System user role does not count for the licence, as in Microsoft's own calculation.

3.9 Role X-ray

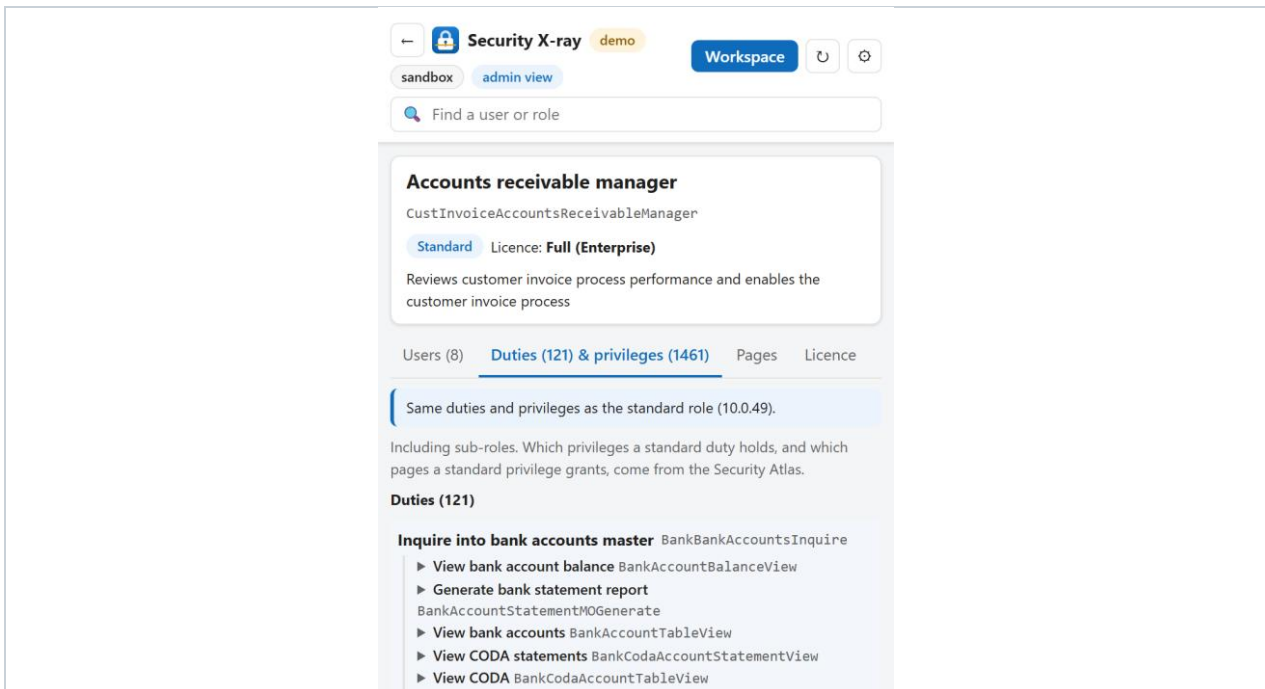


Figure 7. Role X-ray: the Duties & privileges tab of a standard role.

The Role X-ray shows one role: name, ID, kind (Standard; Standard, changed in this environment; Custom (created in the UI); Custom or ISV; System administrator), its licence in D365 and its description. A **sensitive data** badge marks a role with access to sensitive data. It has four tabs:

Tab	What it shows
Users (n)	The users who hold the role, with disabled users, disabled assignments and company limits.
Duties & privileges	Sub-roles, then a comparison with the standard role ("Same duties and privileges as the standard role", or the added and missing duties and privileges), then each duty with its privileges, and Privileges assigned directly : privileges not reached through one of the role's duties. Each privilege expands to the pages it grants. A custom duty or custom privilege badge marks objects that are not in the standard application.
Pages	Every menu item the role grants, with its permission chips. Find page filters; CSV downloads all permission rows of the role, including tables, entities, fields and controls.
Licence	The pages that drive the role's licence, with the access level (read or write) and the licence each needs, compared with the role licence in D365.

Differences from the standard role

Extensions in your environment's models also show up as differences from the standard role. Check before you call a difference a customisation.

Accounts receivable manager
CustInvoiceAccountsReceivableManager

Standard Licence: **Full (Enterprise)**

Reviews customer invoice process performance and enables the customer invoice process

Users (8) Duties (121) & privileges (1461) Pages **Licence**

Pages that need **Full (Enterprise)** in this role: 346. Role licence in D365: **Full (Enterprise)**.

PAGE	ACCESS	LICENCE
OMTeamSelectMembers	write	Full (Enterprise)
[Obsolete] Netting agreements CustVendNetAgreement	write	Full (Enterprise)
Account statuses CredManAccountStatusTable	write	Full (Enterprise)
Accounting distribution CustInvoiceDistributionTemplate	write	Full (Enterprise)
Accounts receivable parameters CustParameters	write	Full (Enterprise)
Accounts receivable workflows CustInvoiceWorkflowTemplate	write	Full (Enterprise)

Figure 8. Role X-ray: the Licence tab lists the pages that need the role's highest licence.

3.10 Custom security: importing the security export

Custom roles, duties and privileges are not in the standard application, so the panel cannot show how they are built until you import your security export. Without it, access is still exact (it is read live), but the path of a custom role says "Custom".

1. In D365, open Data management and create an export with the entities "Security role metadata customizations entity", "Security duty metadata customizations entity" and "Security privilege metadata customizations entity". Turn on **Generate data package**.
2. Run the export and download the package (.zip).
3. In the side panel, click ⚙️ and go to **Custom security (security export)**. Click **Import .zip** and pick the file. (In the workspace, the same card is on the Overview tab and under ⚙️ **Settings**.)

The panel reads the package in the browser and shows, for example, "Imported ...: 146 roles, 6 duties, 25 privileges". Disabled customisations are skipped. From then on custom roles get the same role › duty › privilege paths as standard roles, standard roles changed in Security configuration get the badge **changed in Security configuration**, and roles explained by the package get **explained by the export**. The import is kept per environment address; **Replace** loads a newer file and **Remove** forgets it.

ISV privileges

The export contains only your own customisations. Privileges of ISV solutions are not in it, so their path stays unknown. Their access is still read live and counted everywhere.

3.11 My access (Self mode)

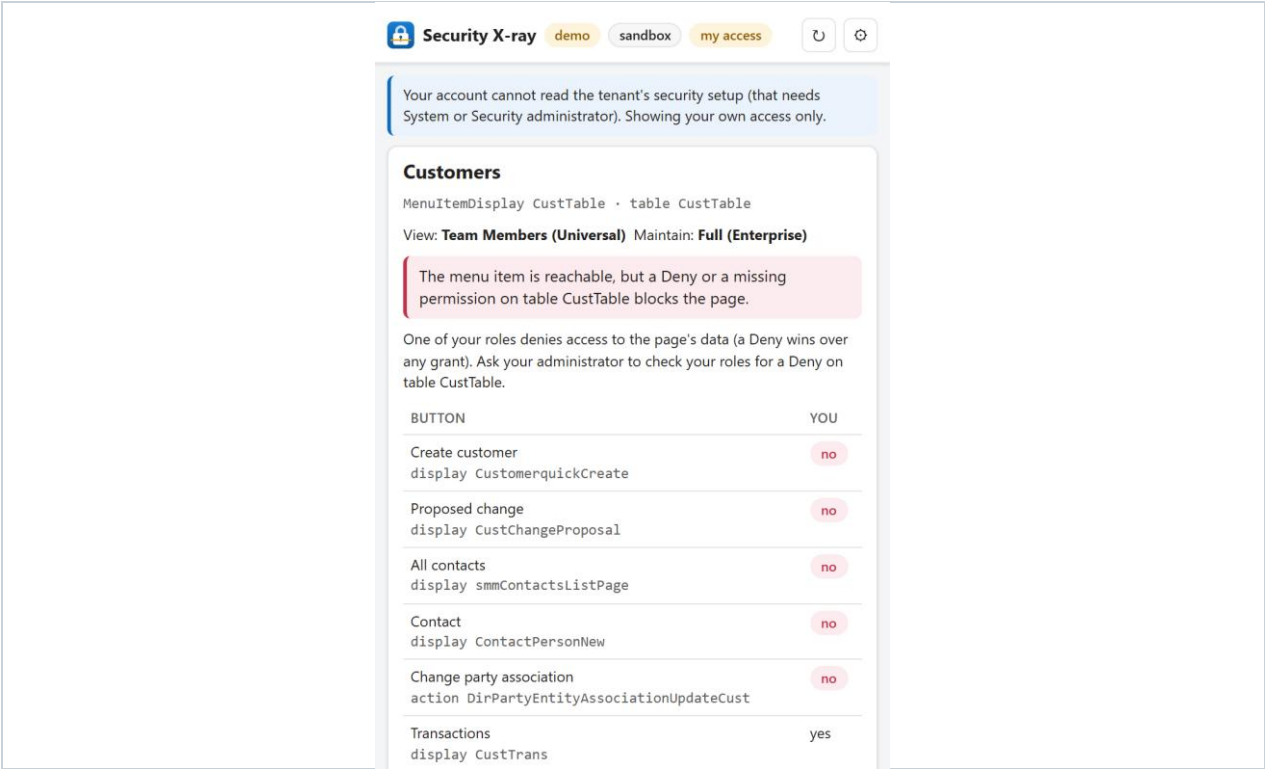


Figure 9. My access for a user without administrator rights: here a Deny blocks the page.

Users who cannot read the security setup see **my access** in the top bar. For the page they are on, the panel says one of three things:

Message	What it means and what to do
"You can open this page (data: ...)"	You have access. The text in brackets is your access to the page's data, for example Delete.
"The menu item is reachable, but a Deny or a missing permission on table ... blocks the page."	One of your roles denies access to the page's data, or the table permission is missing. Ask your administrator to check your roles for a Deny on that table. No role is suggested in this case.
"You have no access to this page."	The panel lists up to 3 standard duties that grant read access, with the standard roles that include them: "To get access, ask your administrator for a role with one of these standard duties".

The buttons table shows, per button on the page, whether you can use it (**yes** or **no**).

3.12 Messages you may see

Message	Meaning
Open a D365 Finance & Operations page	The active tab is not a D365 page. Switch to one, or open D365 and sign in.
Enable on this site	The page is on an address the extension does not know. See section 2.5.
Reading users, roles and assignments...	First load of the security setup for this environment.
Session expired or an error with Retry	Sign in to D365 again in the tab, then click Retry .
No page detected	The tab shows a page without a standard menu item (for example a workspace or a dialog).
Role ... not found / User ... not found (or not readable)	The user or role no longer exists, or your account cannot read it. Click ↺ to reload.

4. The workspace

The workspace is the paid part of Security X-ray. It opens in its own browser tab, connected to the D365 tab you came from, and covers the whole environment.

4.1 Opening the workspace

1. Open D365 as a user with the admin view (section 2.1).
2. In the side panel, click **Workspace**. A new tab opens.
3. Without a licence or trial you see only the activation panel. Start the trial or activate your licence (chapter 12).
4. The workspace reads users, roles and assignments (from the cache when it is fresh) and shows the key figures.

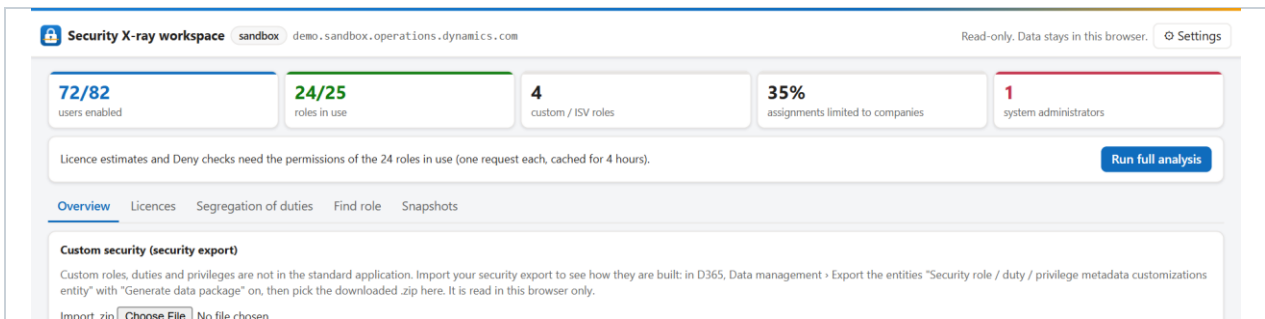


Figure 10. The workspace before the full analysis: header, key figures and Run full analysis.

The header shows the environment badge, the D365 host name, "Read-only. Data stays in this browser." and **Settings**. The key figures are:

Figure	Meaning
users enabled	Enabled users / all users.
roles in use	Roles with at least one enabled assignment / all roles.
custom / ISV roles	Roles that are not in the standard application.
assignments limited to companies	Share of role assignments with a legal-entity or organisation limit.
system administrators	Users with the System administrator role.
licence savings to check	After the full analysis: users one role away from a cheaper licence. Click it to open Licences.

4.2 Run full analysis

Licence estimates, Deny checks, segregation of duties, Find role with your custom roles, and page access in snapshots need the permissions of every role in use. Click **Run full analysis**. The workspace reads the menu item permissions of each role in use, one request per role, three at a time, with a progress bar ("Reading role permissions: 12 / 24") and a **Stop** button. The result is cached for 4 hours; **Reload** reads it again.

Production environments

On an environment that looks like production (or an unknown address), the workspace asks first: "This looks like production. The full analysis reads the menu item permissions of N roles: about N requests, 3 at a time. It reads only, but it adds load." Choose **Run on production** or **Cancel**. Running it on a recent copy (a sandbox) gives the same result without load on production.

4.3 Overview: hygiene findings

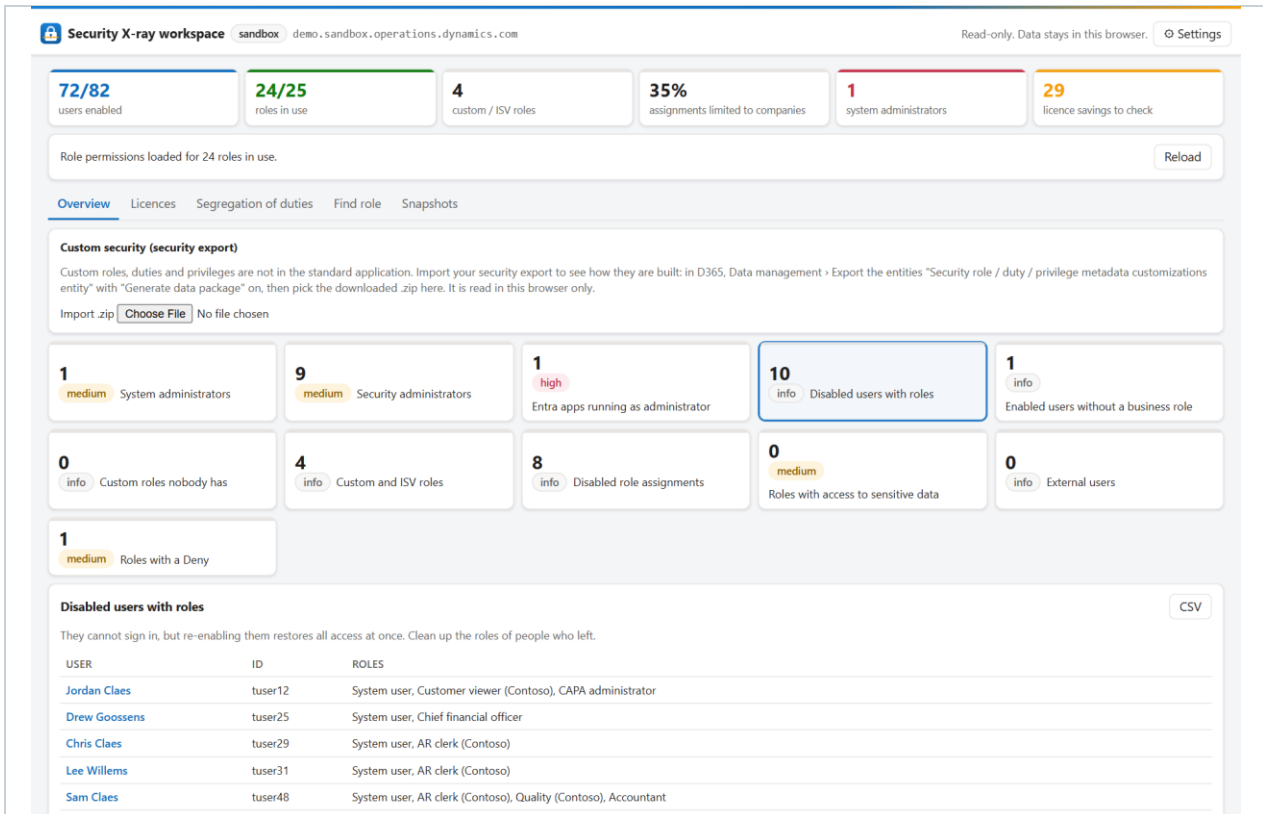


Figure 11. The Overview tab with the finding "Disabled users with roles" opened.

The Overview tab starts with the **Custom security (security export)** card (section 3.10) and then shows one tile per finding, with the number of rows and a severity (high, medium or info). Click a tile to see the list, with **CSV**. Click a user or role in a list to open it in the drawer on the right.

Finding	What it lists
System administrators	Full access to everything, no Deny applies, exempt from licensing. Keep this list short.
Security administrators	Users who can change roles and assignments.
Entra apps running as administrator	Integrations (System administration › Microsoft Entra applications) whose D365 user is a system administrator.
Disabled users with roles	They cannot sign in, but re-enabling them restores all access at once.
Enabled users without a business role	Only System user (or nothing): onboarding not finished, or an unused account.
Custom roles nobody has	Candidates for clean-up (check sub-role use first).
Custom and ISV roles	Roles that are not in the standard application, with their number of users.
Disabled role assignments	Assignments switched off, often by segregation-of-duties handling or temporary access.
Roles with access to sensitive data	Roles flagged "access to sensitive data".

Finding	What it lists
External users	Guests from other tenants (Entra B2B).
Roles with a Deny	After the full analysis: roles with a Deny, what they deny and their users. A Deny beats every grant from other roles.

4.4 The drawer: users, roles and settings

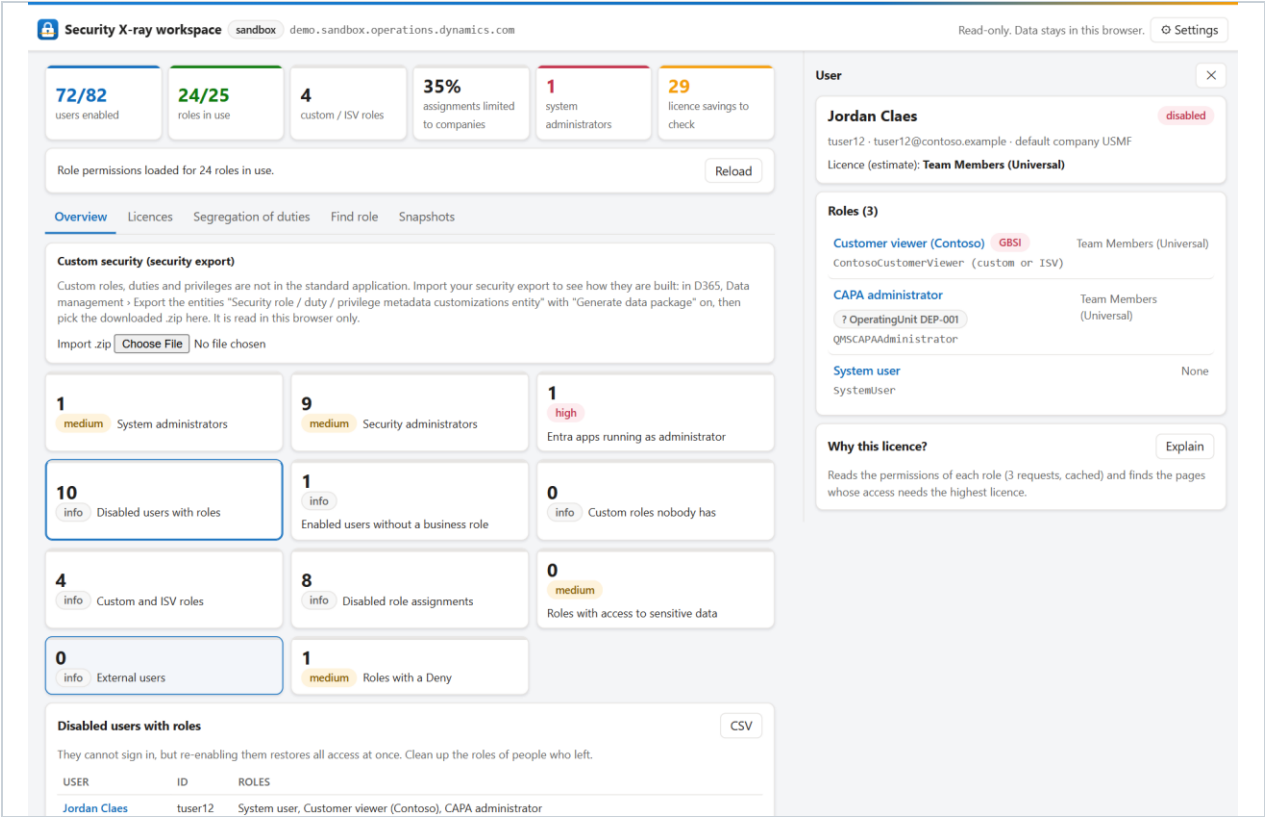


Figure 12. A user opened in the drawer on the right of the workspace.

Clicking a user or a role anywhere in the workspace opens the same User X-ray or Role X-ray as in the side panel, in a drawer on the right. ⚙️ **Settings** opens the settings in the same drawer. ✕ closes it.

5. Licences and the licence optimiser

The **Licences** tab estimates the licence each user needs, prices it, and looks for the smallest changes that would let users move to a cheaper licence. It needs the full analysis (section 4.2); before that it says "Run the full analysis to see the licence estimate."

Estimates, not a licence statement

Every licence figure in Security X-ray is an **estimate**. It is calculated from the licence of each page in the standard application and the access each role grants, priced with the prices you enter.

What you must license is decided by Microsoft. Check every conclusion against the **Microsoft Dynamics 365 Licensing Guide** and your own agreement with Microsoft or your partner. In D365, User security governance (License usage summary) and the Power Platform admin center are authoritative, and licence validation applies to production environments.

Before you change a role, check with its owner that its users keep the access they need.

5.1 How the estimate works

- Every menu item has a **View** licence (needed to open it read-only) and a **Maintain** licence (needed to change data). Read access counts the View licence; any other access counts the Maintain licence.
- A role needs the highest licence among the pages it grants. A user needs the highest licence among their enabled roles.
- System administrators are exempt. The System user role is left out, as Microsoft does.
- Service accounts are listed but not counted in the cost, the fixes or the savings: Microsoft's built-in service users, the D365 users that Entra applications run as, and users you mark yourself (section 5.4).
- The estimate uses the older licence levels (Full, Activity, Team Members and the legacy levels). Microsoft's current products (Finance, Supply Chain Management, Commerce and so on, with base and attach licences) come in when you import Microsoft's licence report (chapter 6).

5.2 The Licences tab

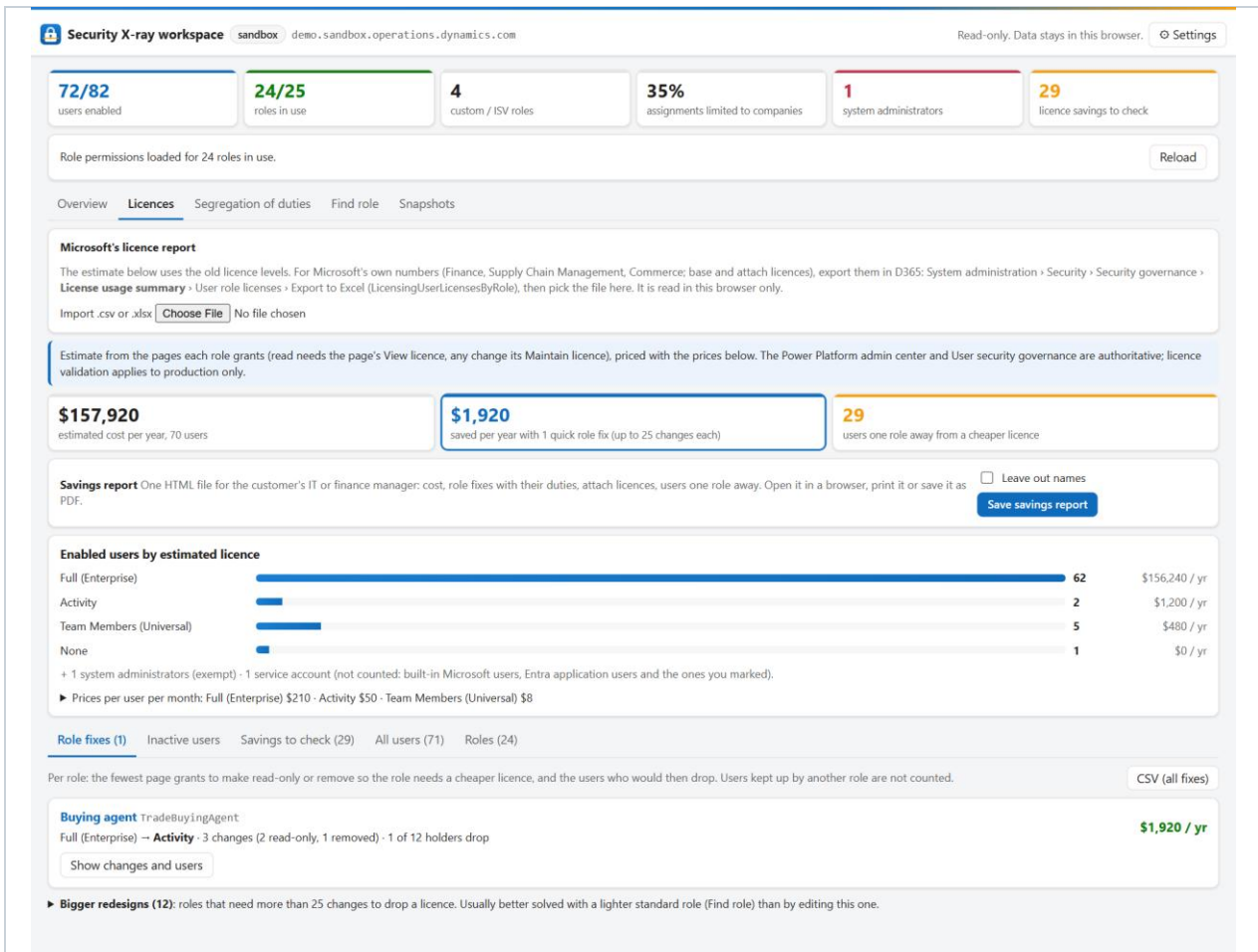


Figure 13. The Licences tab: key figures, savings report, users per estimated licence and the role fixes.

From top to bottom:

- **Microsoft's licence report:** import card (chapter 6).
- **Key figures:** the estimated cost per year, the saving per year with the quick role fixes, the cost of inactive users (once the User log is imported) and the number of users one role away from a cheaper licence. Click a figure to open the matching list.
- **Savings report:** one HTML file for the IT or finance manager (section 5.6).
- **Enabled users by estimated licence:** users and yearly cost per licence level, plus the number of exempt system administrators and service accounts. A note says how many users differ from D365's own role licence.
- **Prices per user per month:** click to edit (section 5.7).
- The lists: **Role fixes**, **Inactive users**, **Savings to check**, **All users**, **Roles**, and after the import of Microsoft's report **Microsoft licences** and **Estimate vs Microsoft**.

5.3 Role fixes

Buying agent TradeBuyingAgent

Full (Enterprise) → **Activity** · 3 changes (2 read-only, 1 removed) · 1 of 12 holders drop

\$1,920 / yr

Hide changes

PAGE	NOW	CHANGE	LICENCE	GRANTED THROUGH
Consignment replenishment order Display ConsignmentReplenishmentOrderDetails	Change	Make read-only	Full (Enterprise) → Team Members (Universal)	ConsignmentReplenishmentOrderMaintain › ConsignmentReplenishmentOrderMaintain
Consignment replenishment orders Display ConsignmentReplenishmentOrderList	Change	Make read-only	Full (Enterprise) → Team Members (Universal)	ConsignmentReplenishmentOrderMaintain › ConsignmentReplenishmentOrderMaintain
Create new consignment replenishment order Action ConsignmentReplenishmentOrderCreate	Change	Remove	Full (Enterprise) → None	ConsignmentReplenishmentOrderMaintain › ConsignmentReplenishmentOrderMaintain

Where it comes from: the duty

- Maintain consignment replenishment orders** ConsignmentReplenishmentOrderMaintain
 → Replace by **Inquire into consignment replenishment orders** ConsignmentReplenishmentOrderInquire (Team Members (Universal): read on 2 of 2 pages in this fix, 4 of 6 of the old duty, +1 other page)
 D365 can also build a trimmed copy of the role: Security configuration › Duplicate with license filter, then pick Operations - Activity.

A privilege can grant more than one page: removing it removes all of them. Making a grant read-only means lowering that entry point's access in the privilege (or a copy of it) to Read. Check with the role's owner that these users do not need to change these pages.

Users who drop: Drew Goossens (Full (Enterprise) → Activity)

Figure 14. A role fix opened with Show changes and users.

For each role, the optimiser looks for the fewest page grants to make read-only or remove so that the role needs a cheaper licence, and counts the users who would then drop to that licence. Users kept up by another role are not counted. Each card shows the role, the licence step (for example Full (Enterprise) → Activity), the number of changes, how many holders drop, and the saving per year. When more than one target licence is possible, buttons let you choose.

Click **Show changes and users** to see:

- Per page: the access now, the change (**Make read-only** or **Remove**), the page licence before and after, and **Granted through**: the duty › privilege paths that give the access.
- Where it comes from**: the duties behind the changes, with advice per duty: a standard read-only duty that can replace it ("Replace by ..."), "remove this duty" when only pages that must go come from it, or a note that the standard application has no read-only duty for these pages.
- A reminder that D365 can build a trimmed copy of the role itself: Security configuration › Duplicate with license filter.
- Users who drop**, with their licence before and after.

A fix with at most 25 changes is a **quick** fix and counts in the headline saving. Roles that need more changes are under **Bigger redesigns**: usually better solved with a lighter standard role (chapter 7). **CSV (all fixes)** downloads every change of every fix. With Microsoft's report imported, a fix card shows the licence Microsoft maps the role to; a red • **check** badge means Microsoft may not count this saving (section 6.2).

Read-only and remove

A privilege can grant more than one page: removing it removes all of them. Making a grant read-only means lowering that entry point's access in the privilege (or a copy of it) to Read.

5.4 Savings to check, All users, Roles and What if

USER	ESTIMATE	SET BY	WITHOUT IT	PAGES	SAVING / YR	SERVICE
Pat Maes tuser03	Full (Enterprise)	Information technology manager	None	287	\$2,520	☐ Try
Chris Peeters tuser06	Full (Enterprise)	Production supervisor	Activity	100	\$1,920	☐ Try
Sam Jacobs tuser07	Full (Enterprise)	Information technology manager	Activity	287	\$1,920	☐ Try
Kim De Smet tuser13	Activity	Budget clerk	None	82	\$600	☐ Try
Morgan Willems tuser19	Team Members (Universal)	Employee	None	534	\$96	☐ Try
Sam Wouters tuser21	Full (Enterprise)	Sales manager	None	540	\$2,520	☐ Try
Kim Wouters tuser26	Full (Enterprise)	Accountant	Activity	1,315	\$1,920	☐ Try
Taylor Maes tuser27	Full (Enterprise)	AR clerk (Contoso)	Activity	265	\$1,920	☐ Try
Jamie Willems tuser36	Full (Enterprise)	Security administrator	None	28	\$2,520	☐ Try
Pat Maes tuser38	Team Members (Universal)	Employee	None	534	\$96	☐ Try
Taylor Claes tuser42	Full (Enterprise)	Warehouse manager	None	249	\$2,520	☐ Try

Figure 15. Savings to check: users that one role puts on their licence.

Savings to check lists users that one role alone puts on their licence: without it they would need less. **All users** lists every enabled user. The columns:

Column	Meaning
User	Name and user ID. A service account badge marks users that are not counted.
Estimate	The estimated licence. When D365's role licence differs it is shown below ("D365: ..."); with Microsoft's report, Microsoft's licences too.
Set by	The role or roles that set the licence.
Without it	The licence the user would need without those roles.
Pages	Number of pages at the estimated licence.
Saving / yr	The yearly saving if the user moves down.
Service	Tick to mark a user as a service account (not counted); untick to count an automatically recognised one as a person. Kept per environment in this browser.
Try	Opens the What if card for this user.

CSV (all users) downloads the list. **Roles** lists every role in use with its estimated licence, its licence in D365, the pages at that licence and its number of users.

What if - Pat Maes tuser03
Full (Enterprise) → Full (Enterprise) no saving yet
Reset
×

Untick a role, or make single pages read-only or remove them, and the licence is worked out again. Nothing is changed in D365.

☒ **System user** None

☒ **Information technology manager** Full (Enterprise)

ReportLanguageFont	ReportLanguageFont	Change - Full (Enterprise)	Keep
OMTeamSelectMembers	OMTeamSelectMembers	Change - Full (Enterprise)	Keep
SelfHealingOpportunityFormPart	SelfHealingOpportunityFormPart	Change - Full (Enterprise)	Keep
DMFDataProjectsList	DMFDataProjectsList	Change - Full (Enterprise)	Keep
DMFRecentRuns	DMFRecentRuns	Change - Full (Enterprise)	Keep
DMFRecurringDataJobAuthorization	DMFRecurringDataJobAuthorization	Change - Full (Enterprise)	Keep
DMFRecurringDataJobMessages	DMFRecurringDataJobMessages	Change - Full (Enterprise)	Keep
DMFRecurringDataJobs	DMFRecurringDataJobs	Change - Full (Enterprise)	Keep
DMFSetupRecurringDataJob	DMFSetupRecurringDataJob	Change - Full (Enterprise)	Keep
DMFMonitorRecurringDataJobs	DMFMonitorRecurringDataJobs	Change - Full (Enterprise)	Keep

Figure 16. What if: untick roles or change single pages and see the licence again.

In **What if**, untick a role, or set a page to **Read-only** or **Remove** instead of **Keep**, and the licence and the saving are worked out again ("saves ... / yr" or "no saving yet"). **Reset** undoes all changes; ✕ closes the card. Nothing is changed in D365. With Microsoft's report imported, a second line shows Microsoft's licences before and after (for unticked roles).

5.5 Inactive users

The **Inactive users** list needs the User log export; see section 6.3.

5.6 Savings report

The **Savings report** card builds one self-contained HTML file for the IT or finance manager. Tick **Leave out names** to replace user names by User 1, User 2 and so on, then click **Save savings report**. The file is named `licence-savings-<environment>-<date>.html`. Open it in a browser, print it or save it as PDF.

It contains: the cost today (Microsoft's numbers when the licence report is imported, else the estimate, with the other for comparison), the quick role fixes with their changes, duties and replacement advice, attach licences that hang on one role, roles by what they cost their holders (top 15), users one role away (top 25), inactive users when the User log is imported, how to read it, and the prices used. The file has no scripts and loads nothing from the internet.

5.7 Prices

Click **Prices per user per month** to edit the price per licence level and the **Currency symbol**. The defaults are Microsoft list prices in USD. Enter your own contract prices for a real figure. With Microsoft's report imported, the editor also has a price per product and for an **Attach licence (each extra full product)**. **Reset to list prices** restores the defaults. Prices are kept in this browser and used for every environment.

6. Licence data from D365 files

Two kinds of D365 data have no OData entity that the extension could read: Microsoft's own licence calculation and the sign-in log. You export them from D365 and import the file in the Licences tab. Both files are read in the browser and kept per environment address.

6.1 Importing Microsoft's licence report

1. In D365, open System administration › Security › Security governance › **License usage summary**.
2. Open **User role licenses** and export it to Excel (the data comes from `LicensingUserLicensesByRole`).
3. In the workspace, open **Licences**. On the **Microsoft's licence report** card click **Import .csv or .xlsx** and pick the file.

The card then shows how many users were imported and matched, and how many enabled users are not in the report (system administrators are exempt and left out by Microsoft). **Replace** and **Remove** work as for the other imports. The file must have the columns User ID, Role name, License and License quantity; otherwise the import says which columns it expected.

With the report imported, the Licences tab adds:

- A key figure with the yearly cost on Microsoft's numbers, and the card **Licences Microsoft requires**: users per licence combination (for example Finance + SCM) with their cost. Each user pays the dearest full product as the base and an attach price per extra full product.
- **Microsoft licences**: attach licences that hang on one role, and roles by what they cost their holders, with **Users** per role and **CSV**. A role counts for a user when taking it away would lower that user's licences: a product goes only when no other role of the user needs it.
- **Estimate vs Microsoft** (section 6.2).

Microsoft computes on all roles together

Microsoft works out the smallest set of products over all of a user's roles together. Security X-ray therefore takes the required licences from the report as they are, and a what-if only removes a product when no remaining role lists it. Check the result in License usage summary after you change a role.

6.2 Estimate vs Microsoft

This view compares the extension's estimate with Microsoft's report, per role and per user, on the old licence levels (any full product counts as Full). **Only differences** is ticked by default.

Result	Meaning
same	The estimate and Microsoft agree.
estimate higher	The page licence properties are stricter than Microsoft's product mapping. Role fixes for such a role may promise savings Microsoft would not count; their fix cards carry a red check badge.
estimate lower	Microsoft also counts object types the estimate does not count (for example data entities and service operations), so savings are understated.

6.3 Inactive users from the User log

Enabled users who have not signed in for months still need a licence. D365 keeps sign-ins in the User log.

1. In D365, open System administration › Inquiries › **User log** and export all rows to Excel.
2. In the workspace, open **Licences** › **Inactive users**, click **Import .csv or .xlsx** and pick the file.
3. Choose the period: **30 days**, **60 days**, **90 days** or **180 days**.

USER	LAST SIGN-IN	DAYS AGO	LICENCE	PER YEAR
Deny Test denytest	not in the log	-	Full (Enterprise)	\$2,520
Jamie Willems tuser36	not in the log	-	Full (Enterprise)	\$2,520
Kim Peeters tuser45	not in the log	-	Full (Enterprise)	\$2,520
Lee Claes tuser63	not in the log	-	Full (Enterprise)	\$2,520
Morgan Janssens tuser09	not in the log	-	Full (Enterprise)	\$2,520
Pat Wouters tuser18	not in the log	-	Full (Enterprise)	\$2,520
Robin Willems tuser54	not in the log	-	Full (Enterprise)	\$2,520
Taylor Maes tuser27	not in the log	-	Full (Enterprise)	\$2,520

Figure 17. Inactive users after the import of a (synthetic) User log, for 90 days.

The card shows which columns were read and how dates were understood (ISO, Excel dates, day/month/year or month/day/year). Check this line: when the date order cannot be decided from the file, a warning says so. Only the last sign-in per user is kept.

The list shows enabled users without a sign-in in the period, with the last sign-in, days ago, licence and cost per year. System administrators and service accounts are left out. A user who is not in the log at all is listed only when the log covers the whole period; otherwise a note explains that the log starts too late. **CSV** downloads the list. Disabling a user in D365 frees the licence; check with their manager first.

7. Find role

Find role answers: which role should this person get? You list the pages someone needs and whether they only look or also change data. The workspace returns existing roles that cover them, cheapest licence first, and a minimal set of standard duties for a new role.

Security X-ray workspace sandbox demo.sandbox.operations.dynamics.com Read-only. Data stays in this browser. Settings

72/82 users enabled 24/25 roles in use 4 custom / ISV roles 35% assignments limited to companies 1 system administrators 29 licence savings to check

Role permissions loaded for 24 roles in use. Reload

Overview Licences Segregation of duties **Find role** Snapshots

List the pages a person needs and whether they only look or also change data. Tip: action and output menu items (buttons, reports) always count as "change". Your custom roles are included.

Add a page: name or menu item Import task recording Choose File No file chosen Clear

All customers Display CustTableListPage look X

All vendors Display VendTableListPage look X

Existing roles that cover all 2 CSV

ROLE	COVERS	LICENCE	EXTRA
Accounts payable positive payment clerk standard PaymPositivePaymentClerk	2/2	Team Members (Universal)	62 (0)
Chief executive officer standard CompanyChiefExecutiveOfficer	2/2	Activity	1751 (180)
Chief financial officer in use here CompanyChiefFinancialOfficer	2/2	Activity	2181 (183)
Auditor standard AuditPolicyManager	2/2	Full (Enterprise)	1645 (186)
Financial controller standard LedgerFinancialController	2/2	Full (Enterprise)	2547 (296)
Treasurer standard PaymTreasurer	2/2	Full (Enterprise)	829 (316)
Accounting manager in use here LedgerAccountingManager	2/2	Full (Enterprise)	4640 (1549)
Accounting supervisor standard LedgerAccountingSupervisor	2/2	Full (Enterprise)	3668 (1705)
Accountant in use here LedgerAccountant	2/2	Full (Enterprise)	4211 (1931)

Or a new role from 2 standard duties

Licence: **Team Members (Universal)** · 73 pages in total. Duties are reused as they are (the way Microsoft advises: assign duties, not privileges).

DUTY	COVERS	LICENCE	PAGES
Inquire into customer master CustCustomerMasterInquire	CustTableListPage	Team Members (Universal)	30
Inquire into vendor positive payments PaymVendPositivePayInquire	VendTableListPage	Team Members (Universal)	43

Figure 18. Find role for "All customers" and "All vendors" (look only).

7.1 Adding pages

- Type in **Add a page: name or menu item** (2 characters or more) and click a page in the list.
- For each page, choose **look** or **change**. Action and output menu items (buttons, reports) always count as change.
- Or click **Import task recording** and pick a Task recorder file saved with **Save as developer recording** (.xml). The workspace reads the pages and buttons used in the recording, and infers look or change from what was done (a value entered, New or Delete, or a button click marks change). A note says how many pages were found and which were not in the Atlas. Check the list before you use it.
- X removes a page; **Clear** removes all.

7.2 Existing roles

The table lists roles that cover all pages ("Existing roles that cover all N"), or the best partial matches when none does. Ranking: full coverage first, then the lowest licence, then the fewest extra pages with change access, then the fewest extra pages.

Column	Meaning
Role	Name and ID, with standard, in use here (a role in your environment; click it to open it) or custom (export) (from the imported security export). Missing pages are listed under the role.
Covers	Pages covered / pages asked.
Licence	The licence the role needs.
Extra	Pages the role grants beyond the request, with the number that have change access in brackets.

Custom roles of your environment are included after the full analysis; before that, only standard roles are compared. **CSV** downloads the full ranking.

7.3 A new role from standard duties

Or a new role from N standard duties proposes the smallest set of standard duties that covers the pages, lowest licence first, with the licence of the new role and its total number of pages. Duties are reused as they are, as Microsoft advises (assign duties, not privileges). When no standard duty grants a page, the card says so: a custom privilege is needed for it.

8. Segregation of duties

The **Segregation of duties** tab checks 14 rules on the effective page access of every role. Each rule pairs two kinds of work that one person should not do alone. A side counts when a role can **change** data on one of the side's pages, whichever duty, privilege or custom role grants it. Because it works on effective access, custom roles, privileges assigned directly and custom duties are covered too. It needs the full analysis.

Each rule pairs two kinds of work that one person should not do alone. A side counts when a role can **change** data on one of its pages, whichever duty, privilege or custom role grants it. System administrators are left out (they can do everything; see Overview). This is a starting set, not your risk assessment: D365's own rules are under System administration > Segregation of duties.

22 user conflicts, 2 role conflicts CSV (all conflicts)

RULE	ROLES	USERS
Vendor master and vendor payments high P2P-01 - A fictitious vendor can be created and paid.	0	0
Vendor bank accounts and vendor payments high P2P-02 - Payments can be redirected to another bank account.	0	0
Vendor master and vendor invoices high P2P-03 - Invoices can be booked on a vendor the same person created or changed.	0	0
Purchase orders and product receipts medium P2P-04 - Goods can be ordered and their receipt confirmed by the same person.	1	12
Purchase orders and vendor invoices medium P2P-05 - The same person orders and matches the invoice (no independent three-way match).	0	0
Customer master and customer payments medium O2C-01 - Customer balances can be changed and payments hidden.	0	0
Customer master and free text invoices medium O2C-02 - Credit notes or invoices to a customer the same person maintains.	0	0
Prices and discounts and sales orders medium O2C-03 - Prices can be lowered for orders the same person enters.	0	0
Bank accounts and bank reconciliation medium R2R-01 - Differences can be hidden by the person who maintains the bank account.	0	0
Chart of accounts and general journals medium R2R-02 - Accounts can be created or changed to hide journal entries.	0	0
Posting profiles and transaction entry medium R2R-03 - Where postings land can be changed by the person who enters them.	0	4
Released products and inventory adjustments low INV-01 - Item setup (cost, units) and stock corrections by the same person.	0	0
Inventory counting and adjustments low INV-02 - Count results and corrections by the same person.	1	4
Security administration and financial transactions high SEC-01 - A person who manages roles can give themselves any access and use it.	0	2

Conflicts recorded by D365 (1)
From D365's own segregation-of-duties rules (duty pairs), with how they were resolved.

RULE	USER	EXISTING	NEW	RESOLUTION
Vendor setup vs payments	tuser07	Accounts payable clerk · Maintain vendor master	Accountant · Process vendor payments	Override Small team

Figure 19. The segregation of duties rules with role and user conflicts, and the conflicts recorded by D365.

8.1 The rules

Rule	Title	Severity	Risk
P2P-01	Vendor master and vendor payments	high	A fictitious vendor can be created and paid.
P2P-02	Vendor bank accounts and vendor payments	high	Payments can be redirected to another bank account.
P2P-03	Vendor master and vendor invoices	high	Invoices can be booked on a vendor the same person created or changed.
P2P-04	Purchase orders and product receipts	medium	Goods can be ordered and their receipt confirmed by the same person.
P2P-05	Purchase orders and vendor invoices	medium	The same person orders and matches the invoice.
O2C-01	Customer master and customer payments	medium	Customer balances can be changed and payments hidden.
O2C-02	Customer master and free text invoices	medium	Credit notes or invoices to a customer the same person maintains.

Rule	Title	Severity	Risk
O2C-03	Prices and discounts and sales orders	medium	Prices can be lowered for orders the same person enters.
R2R-01	Bank accounts and bank reconciliation	medium	Differences can be hidden by the person who maintains the bank account.
R2R-02	Chart of accounts and general journals	medium	Accounts can be created or changed to hide journal entries.
R2R-03	Posting profiles and transaction entry	medium	Where postings land can be changed by the person who enters them.
INV-01	Released products and inventory adjustments	low	Item setup and stock corrections by the same person.
INV-02	Inventory counting and adjustments	low	Count results and corrections by the same person.
SEC-01	Security administration and financial transactions	high	A person who manages roles can give themselves any access and use it.

A starting set

These rules are a starting set, not your risk assessment. Your own rules in D365 stay under System administration › Segregation of duties. System administrators are left out here; they are listed on the Overview tab.

8.2 Reading the results

The heading counts user conflicts and role conflicts. Per rule, **Roles** counts roles that hold both sides themselves and **Users** counts users who hold both sides; the number in brackets are users whose sides are separated by company. Click a rule to see its two sides (with their menu items), the roles that hold both, and per user the roles that give side A and side B:

P2P-04 Purchase orders and product receipts			
Side A: Create and change purchase orders PurchTable, PurchTableListPage			
Side B: Post product receipts PurchFormLetter_PackingSlip, WMSJournalTable			
Roles that hold both: Buying agent			
USER	SIDE A FROM	SIDE B FROM	
Alex De Smet tuser41	Buying agent	Buying agent	one role
Drew Goossens tuser74	Buying agent	Buying agent	one role
Jamie De Smet tuser39	Buying agent	Buying agent	one role
Jordan Claes tuser10	Buying agent	Buying agent	one role
Kim Peeters tuser45	Buying agent	Buying agent	one role
Morgan Goossens tuser33	Buying agent	Buying agent	one role
Pat Claes tuser04	Buying agent, Purchasing agent	Buying agent	one role

Figure 20. One rule opened: the sides and the users who hold both.

- **one role:** a single role gives the user both sides.
- **separated by company:** every role giving side A and every role giving side B is limited to legal entities, and the two sets of companies do not overlap. Such users are not counted as conflicts.

Conflicts recorded by D365 lists the conflicts from D365's own segregation-of-duties rules (duty pairs), with how they were resolved. **CSV (all conflicts)** downloads every user conflict of every rule.

9. Snapshots

A snapshot is a file with the security setup of an environment, saved only on your computer. Compare it later to see what changed: since the last access review, month to month, or between UAT and production.

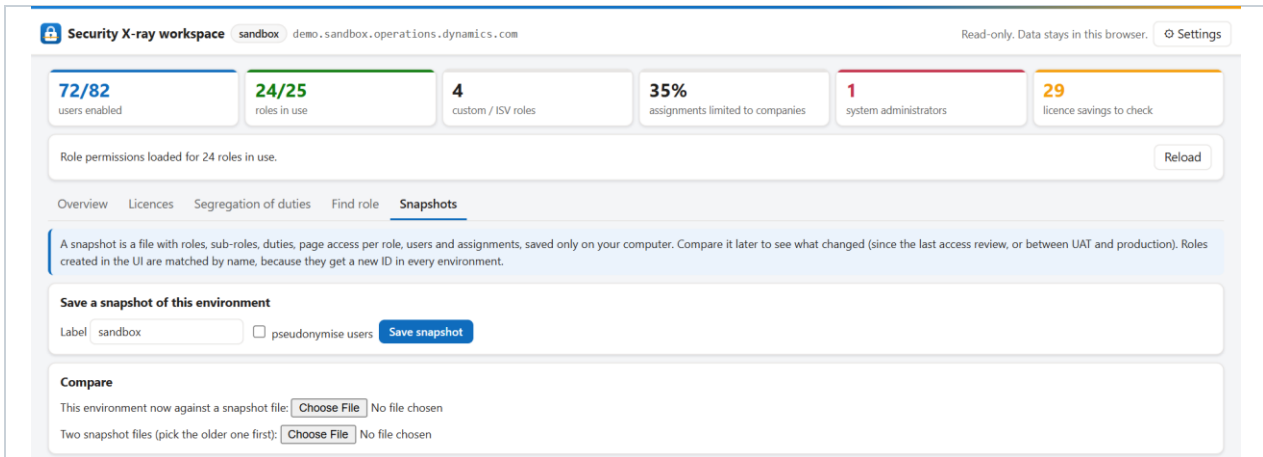


Figure 21. The Snapshots tab.

9.1 Saving a snapshot

1. Run the full analysis first if you want page access per role in the snapshot. Without it the snapshot holds roles, duties and assignments only, and the tab says so.
2. Open **Snapshots**. Check the **Label** (by default the environment label).
3. Tick **pseudonymise users** to replace user IDs by a hash and drop names, for example to share the file.
4. Click **Save snapshot**. The browser saves `security-snapshot-<label>-<date>.json.gz`.

A snapshot contains roles, sub-roles, the duties of every role, page access per role (after the full analysis), users, role assignments and company limits. Privileges per role are not stored; changes to privileges show up as changes in page access.

9.2 Comparing

- **This environment now against a snapshot file:** pick a snapshot file. The current setup is read and compared with it. When the file is pseudonymised, the current side is pseudonymised the same way.
- **Two snapshot files:** pick the older file first, then the second one.

The result lists the changes from the first to the second, with filters per area (Roles, Sub-roles, Duties, Page access, Users, Assignments, Company limits) and **CSV**. Each change is marked added, removed or changed, with before and after values. Roles created in the UI get a new ID in every environment, so they are matched by name. Mixing a pseudonymised and a plain snapshot gives a warning. Up to 1,000 changes are shown on screen; the CSV has all of them.

10. Exports

Every export is built in your browser on an explicit click and saved as a file by the browser. Nothing is uploaded.

Where	Button	File
Side panel › Users tab	CSV, CSV (anonymous)	who-has-access-<menu item>-<company>.csv
Role X-ray › Pages	CSV	role-<role ID>.csv (all permission rows)
Workspace › Overview finding	CSV	<finding>.csv
Licences › Role fixes	CSV (all fixes)	licence-fixes.csv
Licences › user lists	CSV (all users)	licence-estimate.csv
Licences › Microsoft licences	CSV	licence-roles-microsoft.csv
Licences › Inactive users	CSV	inactive-users-<days>d.csv
Licences	Save savings report	licence-savings-<environment>-<date>.html
Find role	CSV	find-role.csv
Segregation of duties	CSV (all conflicts)	segregation-of-duties.csv
Snapshots	Save snapshot	security-snapshot-<label>-<date>.json.gz
Snapshots › comparison	CSV	security-changes.csv

CSV files are UTF-8 and open in Excel with accents intact. Files with user names are personal data: store and share them as your company's policy requires, or use the anonymous or pseudonymised options.

11. Settings

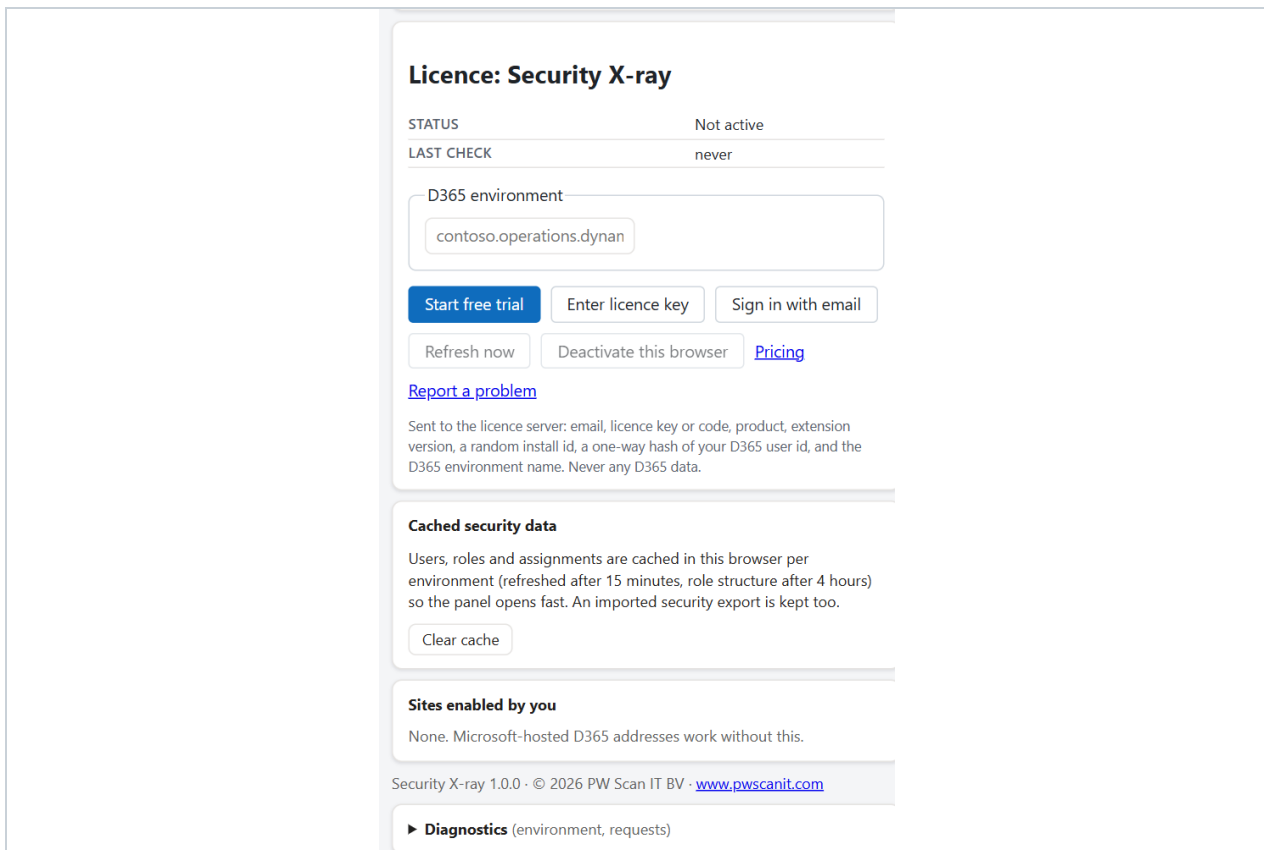


Figure 22. Settings in the side panel (here without a D365 tab, so the custom security card is not shown).

11.1 Where to find them

Place	Contents
Side panel	Custom security (security export) in the admin view, Licence, Cached security data, Sites enabled by you, and Diagnostics (environment and requests).
Workspace Settings	Custom security (security export), Licence, Cached security data, Sites enabled by you.
Extension options page	Licence, What this extension does , Cached security data, Sites enabled by you.

11.2 Licence

The Licence section shows the licence status and lets you start a trial, enter a key or sign in with email. Chapter 12 describes it.

11.3 Cached security data

Users, roles and assignments are cached in this browser per environment so the panel opens fast. They are refreshed after 15 minutes (the panel first checks whether anything changed); role structure and role permissions are kept for 4 hours. An imported security export is kept too. **Clear cache** removes all cached data. in the side panel reloads one environment.

11.4 Sites enabled by you

The addresses you enabled with **Enable on this site**, each with **Remove**. "None. Microsoft-hosted D365 addresses work without this."

11.5 Diagnostics

In the side panel, **Diagnostics** shows the mode, the Atlas version, the number of rows loaded and whether they came from the cache, and the last requests to D365 (path, status, time and size; never row values). Support may ask you for this.

11.6 What is stored in the browser

Data	Kept
Users, roles, assignments, role structure and permissions	Per environment, in the browser's storage (cache). Clear cache removes it.
Imported security export, Microsoft's licence report, User log (last sign-in per user)	Per environment address, until you click Remove or clear the cache.
Licence prices	In extension storage, for all environments.
Service account ticks	Per environment, in extension storage.
Licence token, licence key, random install ID	In extension storage (chapter 12).

12. Licence and trial

12.1 What needs a licence

The **side panel needs no licence**: the page lens, User X-ray, Role X-ray, My access and the custom security import are free. The **workspace** needs a licence or a trial. Without one, the workspace shows only the activation panel and nothing in it reads D365.

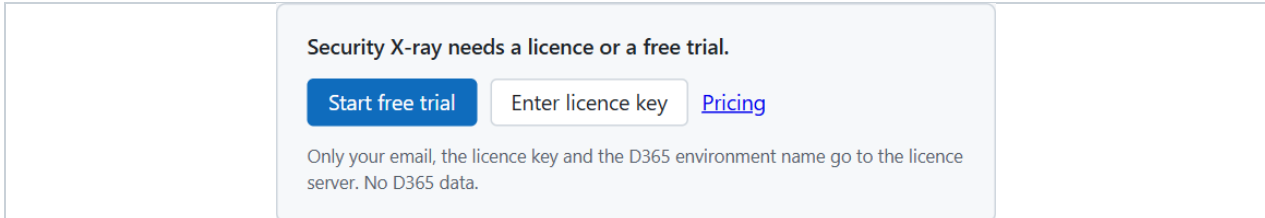


Figure 23. The activation panel in the workspace without a licence.

12.2 Start the 5-day trial

The trial gives the full workspace for 5 days. It needs no payment details: only your work email.

1. Open D365 and click **Workspace** in the side panel (or open the Licence section in the settings).
2. Click **Start free trial**.
3. Enter your work email under "Work email (5-day trial, no credit card)" and click **Start trial** (in the settings: **Continue**).

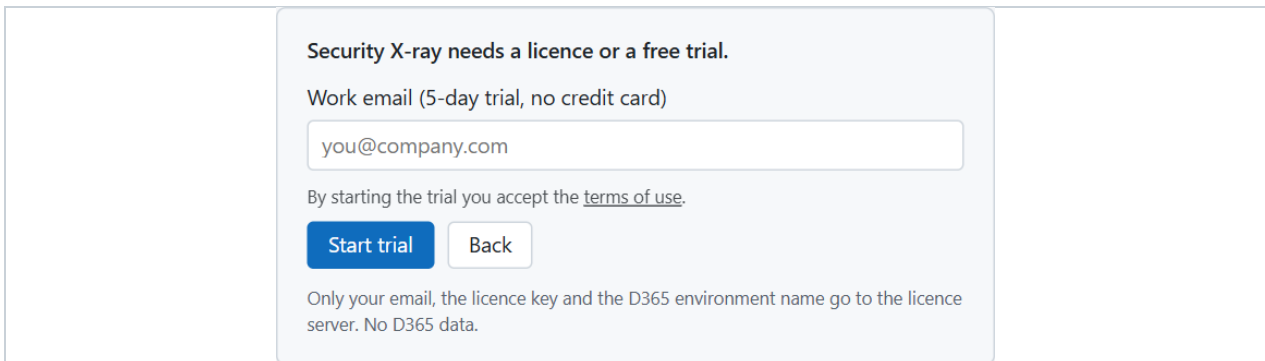


Figure 24. Starting the trial from the workspace.

By starting the trial you accept the terms of use (linked on the form). The licence is checked against the D365 environment of the open tab, so open a D365 page first. A trial can be used once per email address and once per D365 environment. During the trial the workspace shows "Trial: N days left." with a **Buy** link.

12.3 Buying a licence

Click **Buy** (during a trial) or **Pricing**. Both open the pricing on pwscanit.com/security-xray/, where the current prices are listed. The licence is sold:

- **Per person**, monthly or yearly. As stated on the website, a licence works on up to two browsers per person.
- As an **agency pack** for 5 people, with one key for the team.

Payments, receipts and invoices are handled by Link, Stripe's merchant of record. After the purchase you receive your licence key by email.

12.4 Enter licence key

1. Open the Licence section (⚙ in the side panel, ⚙ **Settings** in the workspace, or the options page), or the activation panel in the workspace.
2. Check that **D365 environment** holds your environment's host name (filled from the open D365 tab), for example contoso.operations.dynamics.com.
3. Click **Enter licence key**, paste the key (it starts with SIL-) and click **Continue** (in the activation panel: **Activate**).

12.5 Sign in with email

If you do not have your key at hand, use the email address the licence was bought with:

1. Click **Sign in with email**.
2. Enter the "Email address the licence was bought with" and click **Continue**. The message says: "If this email has a licence, a sign-in code is on its way."
3. Enter the "6-digit code sent to <email>" and click **Continue**.

The image shows a web form titled "Email address the licence was bought with". It contains a single text input field. Below the field are two buttons: "Continue" (highlighted in blue) and "Cancel".

Figure 25. Sign in with email: the first step asks for the email address.

12.6 The Licence section

The image shows the "Licence: Security X-ray" section. It displays the status as "Not active" and "LAST CHECK" as "never". Below this is a "D365 environment" field containing "contoso.operations.dynan". There are four buttons: "Start free trial" (blue), "Enter licence key", "Sign in with email", and "Refresh now". At the bottom, there is a "Deactivate this browser" button and links for "Pricing" and "Report a problem". A small text block at the bottom states: "Sent to the licence server: email, licence key or code, product, extension version, a random install id, a one-way hash of your D365 user id, and the D365 environment name. Never any D365 data."

Figure 26. The Licence section before activation.

Field	Meaning
Status	Active , Trial , Active (offline grace) or Not active (with the reason, for example "Your trial has ended.").
Plan	individual, team or agency, with the number of seats for a team or agency plan.
Licensed to	The email address of the licence.
Environment	The D365 environment, for licences bound to one environment.

Field	Meaning
Trial ends / Checked until	When the trial ends, or until when the last check is valid.
Last check	When the licence server was last reached.
Licence key	The saved key, with Copy and Forget (removes the key from this browser).
D365 environment	The host name the licence is checked against.

Button	What it does
Activate again	Shown when a key is saved but not active in this browser (after Deactivate this browser). One click activates it again.
Start free trial	Starts the 5-day trial (section 12.2).
Enter licence key	Activates a key (section 12.4).
Sign in with email	Activates with a 6-digit code sent to the licence email (section 12.5).
Refresh now	Checks the licence with the server now.
Manage subscription	Shown with a paid licence. Opens the Stripe customer portal, where you manage or cancel your subscription. A trial has no subscription, so it shows Buy instead.
Deactivate this browser	Frees this browser's seat, after a confirmation. The licence key stays saved, so Activate again brings it back. Use it before you move to a new computer or browser.
Buy / Pricing	Opens the pricing on pwscanit.com/security-xray/ .
Report a problem	Opens an email to support with the product and version filled in (section 15.5).

12.7 Offline use

The extension re-checks the licence once a day. When the licence server cannot be reached, the workspace keeps working for up to **14 days** since the last successful check, with the notice "Licence not checked recently (offline?). Keeps working for N more days." The side panel never needs the licence server.

12.8 What the licence check sends

Only the licence check of the paid workspace talks to the licence server of Scan It Labs (licence.pwscanit.com). It sends:

- your email address (trial, sign in with email) or your licence key or 6-digit code;
- the product (Security X-ray) and the extension version;
- a random install ID that identifies this browser installation;
- optionally, a one-way hash of your D365 user ID (never the ID itself);
- the D365 environment host name, for example `contoso.operations.dynamics.com`;
- the licence token it received earlier, when it re-checks.

It never sends D365 data: no users, roles, permissions, company data or exports.

12.9 Licence messages

Message	What to do
All seats on this licence are in use.	Deactivate another browser, or ask whoever bought the licence for more seats.
This team licence belongs to another D365 environment.	Use the licence on the environment it was bought for.

Message	What to do
This licence has expired.	Renew it (Pricing).
A trial was already used for this email address or this D365 environment.	Buy a licence, or contact support.
That key or code is not valid.	Check the key or code and try again.
Too many attempts. Try again in a minute.	Wait a minute.
The licence server cannot be reached.	Check your connection, or ask IT to allow licence.pwscanit.com . The workspace keeps working offline (section 12.7).
Your licence does not include this module.	Contact support.

13. Security and privacy

13.1 Read-only

Security X-ray never changes anything in D365. It only sends read requests (HTTP GET) to D365's OData service, plus two D365 services that only answer questions:

- `GetAccessRights` (user session service): which pages and buttons the signed-in user can open. Used for My access.
- `GetConfigKeysStatus` (configuration key service): which configuration keys are on.

A check in the build fails if any code tries to send anything else, or to call any other service.

13.2 Your session and your rights

The extension has no D365 account, password or app registration. It works inside your signed-in D365 tab with your session, so it can only read what your roles allow.

13.3 Data stays in the browser

- Users, roles and permissions are read and analysed in your browser and cached there (section 11.6). There is no telemetry.
- Imported files (security export, Microsoft's licence report, User log) are read in the browser and never uploaded.
- Snapshots, reports and CSV files exist only as files you save yourself.
- The only other destination is the licence server, for the licence check of the workspace (section 12.8), with no D365 data.

13.4 Browser permissions

Permission	Why
Access to the Microsoft D365 addresses	To read the page you are on and send read requests with your session.
Access to other https sites (optional)	Asked only when you click Enable on this site , for that one site.
Side panel, active tab, scripting	To show the side panel and to connect it to the D365 tab.
Storage, unlimited storage	For the cache, imports, prices and the licence (section 11.6).
Alarms	For the daily licence re-check.
Access to licence.pwscanit.com	For the licence check of the workspace.

14. Licence estimates: what to keep in mind

This short chapter repeats the limits of the licence figures, because decisions about money depend on them.

- The estimate uses the licence properties of the standard pages (View and Maintain) and the access each role grants. Microsoft's licence calculation maps roles to products in its own way. Import Microsoft's licence report (chapter 6) to see Microsoft's numbers next to the estimate.
- Prices are the ones in the price editor: Microsoft list prices unless you enter your own.
- Savings assume the users really can do without the access that is removed or made read-only. That is a business decision.
- The final word is with Microsoft: the Microsoft Dynamics 365 Licensing Guide, your agreement with Microsoft or your partner, and the numbers in User security governance and the Power Platform admin center.

15. Troubleshooting, limits and FAQ

15.1 Troubleshooting

Problem	What to do
The icon does nothing or the panel stays empty	Open a D365 page in the active tab. If D365 was open before the extension was installed or updated, reload the tab (F5).
The panel shows my access while I am an administrator	Your account cannot read the security entities in this environment. Check your roles; click ↻ after a change.
The Workspace button is missing	It is shown in the admin view only.
The workspace says "Open the workspace from the Security X-ray side panel on a D365 tab."	Open it with Workspace in the side panel, not from a bookmark.
Numbers look out of date	Click ↻ in the side panel, or Reload in the workspace.
A custom role says "Custom" without a path	Import the security export (section 3.10).
The licence tab says to run the full analysis	Click Run full analysis on the workspace (section 4.2).
An import says it is not the expected export	The message names the columns it expected. Export again from the D365 page named in chapter 6.
Session expired	Sign in to D365 again, then click Retry .

15.2 Limits

- Standard paths, licences and buttons come from the Security Atlas of D365 version 10.0.49. Who has access is always read live from your environment.
- Custom duties and privileges are explained only with the security export. ISV privileges are never in that export, so their path stays unknown (their access is still counted).
- Roles limited to an operating unit or team depend on the organisation hierarchy; they are marked with a question mark and not resolved further.
- The estimate uses the older licence levels; Microsoft's products come only from the imported report.
- Task recordings must be saved with Save as developer recording; .axtr packages are not read.
- The User log is read by column name (English, Dutch and German titles) and the date order is detected; check the line that says how dates were read.
- Lists on screen are capped (for example 300 users in the panel, 500 rows in workspace lists, 1,000 changes in a comparison); the CSV files hold everything.
- Segregation of duties uses 14 built-in rules; your own rules are not yet added to them.

15.3 How results compare with D365's own security reports

D365 source	How Security X-ray relates to it
System administration › Security › Security configuration	Shows how a role is built. Security X-ray shows the same roles, duties and privileges, plus the effective result per page: Deny rules, company limits, sub-roles and system administrators combined.
D365 security reports (for example the security role access report)	Should list the same roles for a page as the Roles tab of the page lens. Security X-ray adds the users, their company limits and Deny rules.

D365 source	How Security X-ray relates to it
System administration › Users › Users	Shows a user's roles. The User X-ray shows the same roles, with company limits, assignment status and the licence they drive.
Security governance › License usage summary; Power Platform admin center › Licenses	Authoritative licence numbers. The estimate can be higher or lower; import the report to compare (section 6.2).
System administration › Segregation of duties	D365's own rules are duty pairs, so they miss custom roles and directly assigned privileges. Security X-ray's rules work on effective page access, and it shows D365's recorded conflicts next to its own.
System administration › Inquiries › User log	The source of the Inactive users list.

15.4 Frequently asked questions

Can Security X-ray change roles or assignments?

No. It only reads. Changes are always made by you, in D365.

Does our security setup leave the browser?

No. Only the licence check of the workspace talks to our server, without D365 data (section 12.8).

What rights do I need?

Rights to read the security setup, as a System administrator or Security administrator has. Without them you get My access.

We have custom roles and ISV solutions. Are they covered?

Yes. Access is read live, so custom and ISV roles count everywhere: on the page, in the licences and in segregation of duties. Import the security export to also see the paths of your own custom roles.

Is the licence estimate exact?

No. It is an estimate to find where to look. See chapter 14.

Can I use it on production?

Yes. It only reads. The workspace asks before it runs the full analysis on production, because that sends one request per role in use.

Does the side panel stop working when the trial ends?

No. The side panel is free. Only the workspace needs a licence.

15.5 Support

Email support@pwscanit.com. We answer within one business day. **Report a problem** in the Licence section opens an email with the product and version filled in, and asks for the browser, the D365 version, what you did, what you expected and what happened. Please do not include customer data, prices or full screenshots: crop or blur them; we will ask if we need more.

Appendix A. Glossary of D365 security terms

Term	Meaning
Role	A set of duties and privileges assigned to users, for example Accounts receivable clerk. Roles can contain sub-roles.
Sub-role	A role inside another role; its access counts for the parent role.
Duty	A group of privileges for one task, for example Maintain customer master.
Privilege	The smallest unit of security: access to one or more entry points (menu items), tables, data entities or service operations.
Entry point / menu item	What opens a page (display), runs a process (action) or prints a report (output).
Permissions R U C D X I	Read, Update, Create, Delete, Correct and Invoke.
Grant / Deny	A permission can be granted or denied. A Deny from any role wins over a grant from another role.
Main table	The table behind a page. A Deny on it blocks the page even when the menu item is granted.
Company limit (legal-entity scoping)	A role assignment can be limited to legal entities or to an organisation (operating unit, team).
System administrator	The kernel role -SYSADMIN- : full access, no Deny applies, exempt from licensing.
System user	The base role every user has; not counted for licences.
Custom role	A role not in the standard application. Roles created in the D365 UI get a GUID as ID.
Security export	The Data management package of the security role, duty and privilege metadata customizations entities.
Security Atlas	The standard security metadata shipped with the extension (roles, duties, privileges, menu items with their licences, form buttons), built from D365 10.0.49.
View / Maintain licence	The licence a menu item needs to open it read-only (View) or to change data (Maintain).
Segregation of duties	Keeping two kinds of work (for example creating vendors and paying them) with different people.
Self mode (My access)	The side panel mode for users who cannot read the security setup.

Appendix B. Licence types

In Security X-ray	D365 value	Notes
Full (Enterprise)	Enterprise	A full user licence. In Microsoft's current model this is a product such as Finance, Supply Chain Management or Commerce; a second full product is an attach licence.
Functional	Functional	Legacy level.
Activity	Activity	Operations - Activity.
Task	Task	Legacy level.
Team Members (Universal)	Universal	Team Members.
Self-serve	SelfServe	Legacy level.
None	None	No licence needed for this access.
exempt	n/a	System administrators.

The order used to decide the highest licence is None < Self-serve < Task < Team Members < Activity < Functional < Full. Microsoft's licensing guide describes which licence each kind of user needs.

Appendix C. Quick reference

I want to...	Go to
See who can open this page	Side panel › Users tab
See why a role grants this page	Side panel › Roles tab › expand the role
See who can use a button	Side panel › Buttons tab
See what a user can do and why their licence is what it is	Find a user or role › user › Explain
Compare a role with the standard role	Role X-ray › Duties & privileges
Check my own access	Side panel in My access mode
Explain custom roles	⚙ › Custom security (security export) › Import .zip
Find admins, disabled users with roles, roles with a Deny	Workspace › Overview
Find where a licence can be saved	Workspace › Run full analysis › Licences › Role fixes, Savings to check
Try a change for one user	Licences › Try
Use Microsoft's licence numbers	Licences › Microsoft's licence report › Import .csv or .xlsx
Find inactive users	Licences › Inactive users › import the User log
Give management one file	Licences › Save savings report
Choose a role for a new person	Workspace › Find role
Check segregation of duties	Workspace › Segregation of duties
Record the setup for an access review	Workspace › Snapshots › Save snapshot
Compare UAT and production	Snapshots › Two snapshot files
Start the trial or enter my key	⚙ › Licence, or the activation panel in the workspace

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