

Competitive Landscape for Technical Debt Removal



There are a few companies out there claiming to be experts on how technical debt impacts your Salesforce org. Look closely at their claims. Do they just “detect” technical debt, or can they actually remove the data and metadata responsible for the problem? Do they have tooling for org splits and merges, or do they lack this core competence? Another red flag is when a company can’t really define what they mean by technical debt in the first place. If their description of technical debt sounds vague then they can’t fix the problem. Metazoa has assembled a suite of automated tools that discover and remove technical debt from any Salesforce org. This white paper compares the differences between the tools Metazoa provides and the capabilities available from Elements Cloud and Panaya ForeSight.

Metadata Dependency Information

Any attempt to analyze technical debt requires detailed and accurate information about metadata dependencies. Metadata assets can refer to other assets by name, and these references form a web of interconnected links. For example, a Permission Set might define access permissions for a Custom Object, or a Dashboard might reference embedded Reports. This information is required to understand the structure of the org and the extent to which assets are being used. The dependencies are also needed to understand how forgotten assets can be deleted with destructive changes.

Discovering all the different metadata dependencies is quite difficult. Over the last 15 years, various product teams at Salesforce invented their own inconsistent methods for handling metadata dependencies and deployments. Metadata references can be found inside metadata assets in many ways, including:

- Explicit Parent References
- Parent and Child References
- Folder and Parent Reference
- Implicit File Name References
- Parent References with Limited Scope
- Child References with Implicit Parents
- Name References in Text and Code
- Formulas that Reference Assets
- Hundreds of Special Cases

Panaya ForeSight and Elements Cloud support dependency information for about 50 metadata types. This list is available on their websites, the links are provided below. Both companies cover (more or less) the same metadata types. This is almost certainly because they are both using the Salesforce Metadata Component Dependency API. This API covers about 70 different relationships.

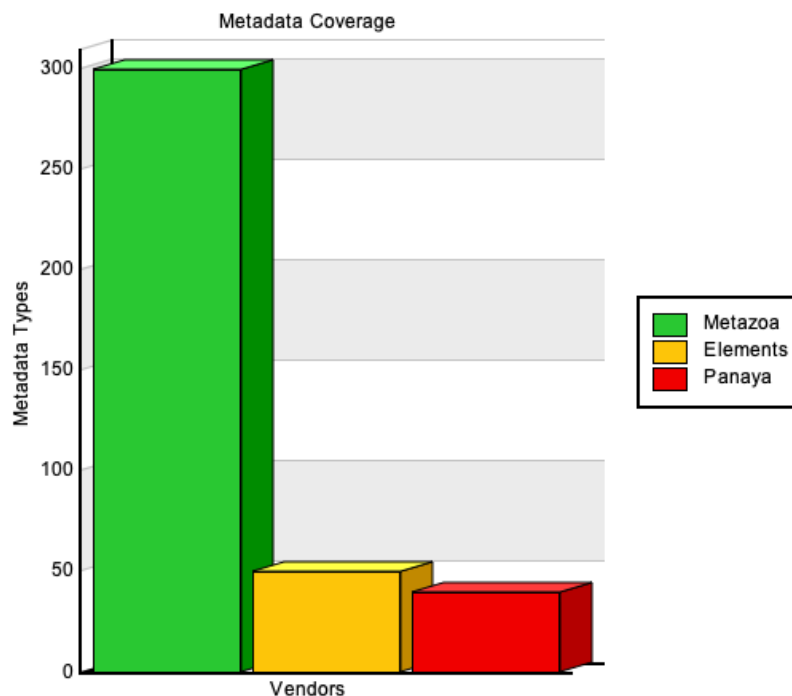
There are many problems with the Salesforce Metadata Component Dependency API. This API returns strange results in certain situations. Salesforce announced the API would be deprecated eventually, and there are no plans for a new version. But the biggest issue is that this API covers only a fraction of the available metadata types and the possible relationships between them.

Metazoa has spent over a decade developing our own Dependency API. Our API is the only accurate and complete source of dependency information available on the Salesforce platform. The Metazoa Dependency API covers all 300 metadata types and over 1400 different relationships between them. This implementation uses static analysis on metadata files and is extremely fast. Our API works both on live orgs and developer projects.

Our API covers all the new metadata types for the Verticals, Einstein and Data Cloud. Our solution includes custom parsers for Lightning Web Components, Email Templates, and Visualforce Pages. We also developed an interpreter for Apex Classes and Triggers to identify the language structure.

Metazoa is the industry leader in understanding Salesforce dependencies by an order of magnitude. This core competence is mission critical for technical debt analysis. Here are the reports and applications that use the Metazoa Dependency API:

- Data Dictionary Report
- Forgotten Assets Report
- Relationship Matrix Report
- Impact Analysis Application
- Metadata Deployment Application



Metadata Type coverage for Panaya ForeSight, Elements Cloud, and Metazoa Snapshot. This information was found at the vendor website links below:

Panaya ForeSite: <https://success.panaya.com/docs/what-salesforce-components-does-panaya-analyze>

Elements Cloud: <https://support.elements.cloud/en/articles/5945844-full-list-of-salesforce-metadata-supported-in-org-models>

	Panaya	Elements	Metazoa
Account Relationship Share Rules			X
Action Link Group Templates			X
Action Plan Templates			X
AI Applications			X
AI Application Configs			X
Analytic Snapshots			X
Animation Rules			X
Apex Classes	X	X	X
Apex Components	X	X	X
Apex Email Notifications			X
Apex Pages	X	X	X
Apex Test Suites			X
Apex Triggers		X	X
App Menus			X
Appointment Scheduling Policies			X
Approval Processes	X	X	X
Assignment Rules	X	X	X
Audience			X
Auth Providers			X
Auto Response Rules		X	X
Batch Calc Job Definitions			X
Batch Process Job Definitions			X
Blacklisted Consumer			X
Bot			X
Branding Sets			X
Briefcase Definitions			X
Business Process Group			X
Call Centers			X
Call Coaching Media Provider			X
Campaign Influence Models			X
Case Subject Particles			X
Care System Field Mappings			X
Care Provider Search Configs			X
Certificates			X
Channel Layouts			X
Chatter Extensions			X
Clean Data Services			X
CMS Connect Source			X
Community Zones			X
Community Template Definitions			X
Community Theme Definitions			X
Connected Apps	X		X
Content Assets			X
CORS Whitelist Origins			X
CSP Trusted Sites			X
Custom Applications		X	X
Custom Application Components			X
Custom Feed Filters			X
Custom Help Menu Section			X
Custom Labels	X	X	X
Custom Notification Types			X
Custom Objects	X	X	X
Custom Object Translations			X
Custom Page Web Links			X
Custom Permissions			X
Custom Sites			X
Custom Tabs		X	X
Dashboards	X	X	X
Data Category Groups			X
Data Package Kit Objects			X
Data Package Kit Definitions			X
Data Connector S3			X
Data Sources			X
Data Source Objects			X
Data Stream Definitions			X
Decision Tables			X
Decision Table Dataset Links			X
Delegate Groups			X
Discovery Models			X
Discovery Goals			X
Documents			X
Duplicate Rules		X	X
Eclair Geo Data			X

	Panaya	Elements	Metazoa
Email Services Functions		X	X
Email Templates	X	X	X
Embedded Service Branding			X
Embedded Service Configs			X
Embedded Service Field Service			X
Embedded Service Flow Config			X
Embedded Service Live Chat			X
Embedded Service Menu Settings			X
Entitlement Processes		X	X
Entitlement Templates			X
Escalation Rules		X	X
Esignature Configs			X
Esignature Envelope Configs			X
Experience Bundles			X
External Data Connectors			X
External Data Sources			X
External Service Registrations			X
Feature Parameter Booleans			X
Feature Parameter Dates			X
Feature Parameter Integers			X
Field Restriction Rules			X
Field Src Target Relationships			X
FlexPages	X	X	X
Flows	X	X	X
Flow Category			X
Flow Definitions			X
Forecasting Source Definitions			X
Forecasting Types			X
Forecasting Type Sources			X
Function References			X
Global Value Sets	X		X
Global Value Sets Translation			X
Groups			X
Home Page Components			X
Home Page Layouts			X
Inbound Certificates			X
Inbound Network Connections			X
Installed Packages			X
IP Address Ranges			X
Keyword Lists			X
Letterheads			X
Lightning Bolt			X
Lightning Bundles	X	X	X
Lightning Web Components	X	X	X
Lightning Experience Theme			X
Lightning Message Channels			X
Lightning Onboarding Configs			X
Live Chat Configurations			X
Live Chat Buttons			X
Live Chat Deployments			X
Live Chat Sensitive Data Rules			X
Loyalty Program Setups			X
Managed Content Types			X
Managed Topics			X
Marketing App Extensions			X
Matching Rules		X	X
Milestone Types			X
MI Domain			X
Mkt Calc Insight Object Defs			X
Mkt Data Tran Objects			X
ML Data Definitions			X
ML Prediction Definitions			X
Mobile Application Details			X
Moderation Rules			X
Muting Permission Sets			X
My Domain Discoverable Logins			X
Named Credentials			X
Navigation Menus			X
Networks			X
Network Branding			X
Notification Type Configs			X
Oauth Custom Scopes			X
Object Source Target Maps			X

	Panaya	Elements	Metazoa
Ocr Sample Documents			X
Ocr Templates			X
Outbound Network Connections			X
Page Layouts	X	X	X
Path Assistants			X
Payment Gateway Providers			X
Permission Sets	X	X	X
Permission Set Group		X	X
Platform Cache Partitions			X
Platform Event Channel			X
Platform Event Channel Members			X
Platform Event Subscriber Configs			X
Portals			X
Post Templates			X
Presence Decline Reason			X
Presence User Config			X
Profiles	X	X	X
Profile Password Policies			X
Profile Session Settings			X
Prompts			X
Queues		X	X
Queue Routing Config			X
Quick Actions			X
Record Alert Categories			X
Recommendation Strategy			X
Record Action Deployment			X
Redirect Whitelist Urls			X
Remote Site Settings	X	X	X
Reports	X	X	X
Report Types	X	X	X
RestrictionRule			X
Roles		X	X
Sales Work Queue Settings			X
SAML SSO Configurations			X
Scheduling Rules			X
Scotrols			X
Service AI Setup Definitions			X
Service AI Setup Fields			X
Service Channel			X
Service Presence Status			X
Sharing Rules		X	X
Sharing Sets			X
Site Dot Coms			X
Skills			X
Standard Value Sets		X	X
Standard Value Sets Translation			X
Static Resources	X		X
Src Catalog Categories			X
Src Catalog Fulfillment Flows			X
Src Catalog Items Defs			X
Synonym Dictionaries			X
Territories			X
Territory Models			X
Territory Types			X
Time Sheet Templates			X
Topics For Objects			X
Transaction Security Policies			X
Translations			X
User Auth Certificates			X
User Criterias			X
User Provisioning Configs			X
Wave Applications			X
Wave Dataflows			X
Wave Dashboards			X
Wave Datasets			X
Wave Lenses			X
Wave Recipes			X
Wave Bundles			X
Wave XMDs			X
Web Store Templates			X
Workflows	X	X	X
Work Skill Routings			X

Actionable Reporting

Imagine a doctor who can diagnose diseases but can't treat them. Many technical debt reports suffer from this problem. There might be hundreds or thousands of assets that need to be deleted, and the customer must wade through the setup menu to make all the changes. In other cases, like removing inactive users, there can be thousands of required edits that range across multiple metadata types and different junction objects. There is no good way to make manual changes in complex situations like this.

Where appropriate, the Metazoa reports are actionable. After an interactive search for assets that should be removed or modified, the customer can choose to launch sophisticated metadata deployment tooling and make the required changes. Alternatively, they can save the changes in a job list for release management later. Metazoa integrates with Copado, so the customer can also choose to save these changes as a user story.

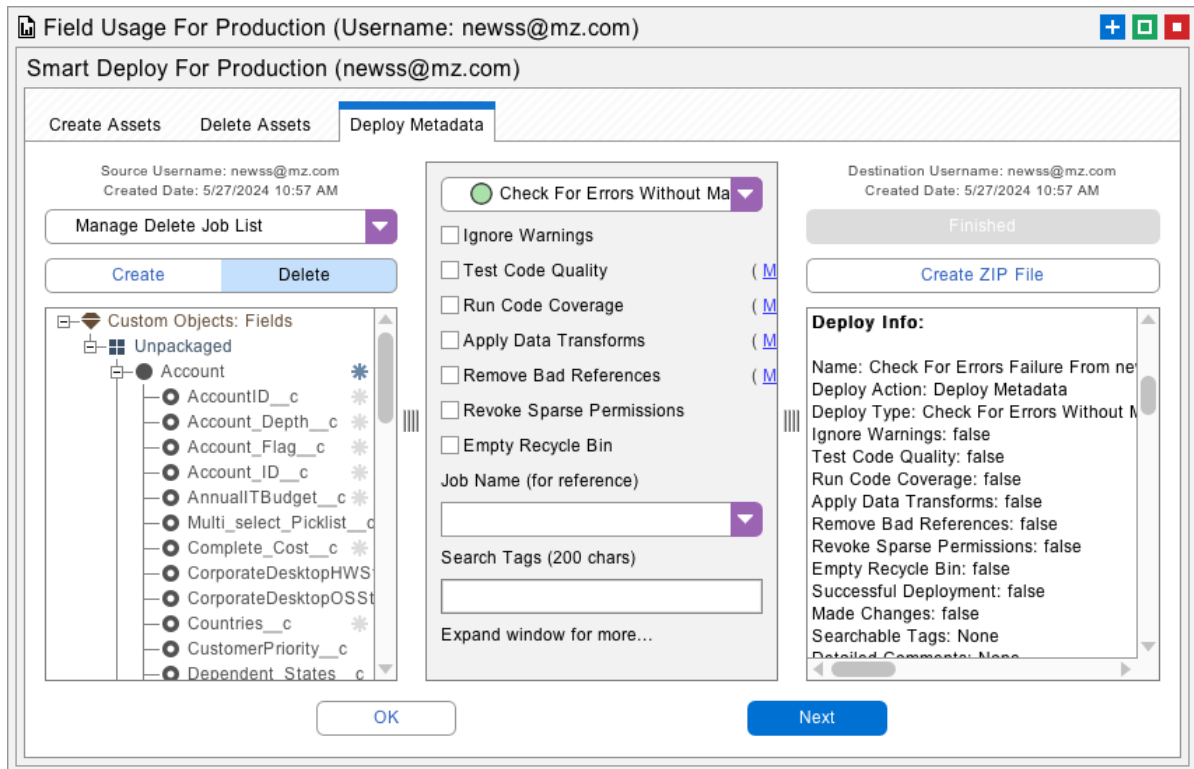
The Metadata Studio prompt engineering platform makes extensive use of these data migration and metadata deployment capabilities. Customers can transform data and metadata assets and apply those changes across the entire org. The final step in prompt automation creates a developer project for deployment or a dataset for migration. Actionable prompt automation opens up amazing new possibilities for org transformation.

Metazoa duplicates the current snapshot before making any changes. Because of this, the time series history of snapshots will have a backup of the original org. Any mistakes can be rolled back with the deployment tools. For example, if an asset is mistakenly removed there is always a backup copy that can be used for recovery.

Technical debt removal is also important during org splits and merges. Often technical debt will be removed prior to an org split or after an org merge. In this case the cleanup and optimization process can happen along with the other deployments and data migrations.

Neither Panaya ForeSight nor Elements Cloud have any kind of significant metadata deployment or data migration capabilities. This is a serious handicap competing with Metazoa Snapshot which has made a major investment in org management tooling. Here are the Metazoa Snapshot reports that make actionable changes:

- Field Usage
- Lightning Security
- Metadata Comparison
- Bulk Editing Permissions
- Last Activity Date
- Forgotten Assets
- Metadata Studio
- User Connection Cleanup
- User Permission Assignments



Zero Trust Security Model

Salesforce has spent billions of dollars on secure network infrastructure and security safeguards. They also have impressive security and compliance certifications. Many of the world's largest companies trust the Salesforce platform. But just because you decided to trust Salesforce does not mean that by extension you should trust their partners. Any partner with an external server hosted outside of Salesforce should be scrutinized with extreme care.

Even if you trust this partner, accidents happen. Who has access to their data center? How do they access that data center? Where is their server hosted? What kind of compliance certifications have they earned? What is their backup and disaster recovery policy? Do they store your data or metadata on their server? Do they store your credentials? How do they segment information from multiple customers? And so on, and so on.

This problem is especially serious where metadata is involved. Because metadata retrieval and deployment require the most sensitive administrative credentials. If these credentials are compromised, then an attacker can access everything in your org, both data and metadata.

Both Panaya ForeSight and Elements Cloud store customer data and metadata on their externally hosted servers. Metazoa Snapshot does not. Our product communicates directly between your personal computer and your Salesforce account. We do not have a database, server, or cloud. We can't see your data, metadata, or credentials. This is why large government customers and financial institutions trust Snapshot. Our SI partners can use Snapshot for their customers without a third-party security discussion.

Unique Capabilities in Elements Cloud

Elements Cloud advertises their ability to create Universal Process Notation (UPN) diagrams. These diagrams help document a business process. There are other types of diagrams that people use, including flow charts, Unified Modeling Language, value stream maps, Business Process Management Notation, and SIPOC (supplier, inputs, process, outputs, and customers). There does not seem to be any compelling connection between metadata assets and the resulting diagrams, and at this point Metazoa Snapshot has not introduced any project management diagram or flow chart capabilities.

Elements Cloud also advertises a report dedicated to tracking metadata descriptions. This information is available in various places in Metazoa Snapshot but not in a single report. Metazoa Snapshot provides Metadata Studio to automatically create new descriptions for metadata assets and deploy them in the release management cycle.

Unique Capabilities in Panaya ForeSite

Panaya ForeSight provides many services off the Salesforce platform that are beyond the scope of this whitepaper. On Salesforce, many of the unique capabilities they advertise are variations of the Impact Analysis report discussed above, including Release Planning, Root Cause Analysis, and Technical Debt Cleanup. They advertise an Automations Overview report that helps companies migrate to Flows, there is no direct analogue for that report in Metazoa Snapshot.

Competitive Matrix Technical Debt

In the table below the Forgotten Assets row refers to general purpose technical debt identification. None of the line items below reflect the qualitative differences discussed earlier, including the differences in the Dependency API being used and reports that are actionable.

Technical Debt Capabilities

	Panaya	Elements	Metazoa
Field Usage		✓	✓
Picklist Usage			✓
Org Health Scan			✓
Last Activity Date			✓
Apex Code Quality			✓
Forgotten Assets	✓	✓	✓
Inactive User Cleanup			✓
License Management			✓
Automation Reporting	✓		

Competitive Matrix Org Documentation

In the table below, the Data Dictionary covers objects and fields, and the Metadata Dictionary covers the other 300 metadata types. Again, there are differences in Impact Analysis based on the underlying API being used.

Org Documentation Capabilities

	Panaya	Elements	Metazoa
Metadata Dictionary			✓
Data Dictionary		✓	✓
Relationship Matrix			✓
Similar Assets			✓
Impact Analysis	✓	✓	✓
Fields & Page Layouts			✓
Record Types & Picklists			✓
Metadata Comparison			✓
UPN Flowcharts		✓	
Descriptions Report		✓	

Competitive Matrix Security Permissions

The Elements Cloud permission matrix report lacks Combined Security reporting and is not actionable for Merging Similar Profiles and Bulk Editing Permissions.

Security Permissions Capabilities

	Panaya	Elements	Metazoa
Folder Sharing Security			✓
Lightning Page Security			✓
Record Level Security			✓
User Activity Timeline			✓
Permission Matrix Report		✓	✓
Merging Similar Profiles			✓
Bulk Edit Permissions			✓

Competitive Matrix Additional Capabilities

Metazoa Snapshot has the only dedicated tooling for performing Org Splits, Clones, and Merges, this is related to the Metadata Deployment and Data Migration Capabilities. Both Panaya ForeSight and Elements Cloud are doing things with AI but we don't see a dedicated Prompt Engineering platform advertised by either company.

Additional Capabilities

	Panaya	Elements	Metazoa
Metadata Deployment			✓
Relational Data Migration			✓
Org Split Clone & Merge			✓
Prompt Engineering & Automation			✓
Zero Trust Security Model			✓
Supports All Metadata Types			✓
Custom Dependency API			✓
Actionable Reports			✓

Conclusion

Metazoa has been working for over a decade on technical debt reduction, org documentation, and org security. These are related concerns, and most of the features we support have come from thousands of helpful suggestions made by our enterprise customers over many years. Check out our battle-tested product line on the AppExchange. If you are a power user, our Snapshot product delivers all these capabilities under one roof with a visual interface.

Bill Appleton
Metazoa CTO

Technical Debt	Panaya	Elements	Metazoa
Field Usage		✓	✓
Picklist Usage			✓
Org Health Scan			✓
Last Activity Date			✓
Apex Code Quality			✓
Forgotten Assets	✓	✓	✓
Inactive User Cleanup			✓
License Management			✓
Automation Reporting	✓		
Org Documentation	Panaya	Elements	Metazoa
Metadata Dictionary			✓
Data Dictionary		✓	✓
Relationship Matrix			✓
Similar Assets			✓
Impact Analysis	✓	✓	✓
Fields & Page Layouts			✓
Record Types & Picklists			✓
Metadata Comparison			✓
UPN Flowcharts		✓	
Descriptions Report		✓	
Security & Permissions	Panaya	Elements	Metazoa
Folder Sharing Security			✓
Lightning Page Security			✓
Record Level Security			✓
User Activity Timeline			✓
Permission Matrix Report		✓	✓
Merging Similar Profiles			✓
Bulk Edit Permissions			✓
Additional Capabilities	Panaya	Elements	Metazoa
Metadata Deployment			✓
Relational Data Migration			✓
Org Split Clone & Merge			✓
Prompt Engineering & Automation			✓
Zero Trust Security Model			✓
Supports All Metadata Types			✓
Custom Dependency API			✓
Actionable Reports			✓