

Digital Identity Management

More Than Just a Workflow

WHITE PAPER



Now. The Platform of Platforms.

The Now Platform

The Now Platform from ServiceNow provides developers with the ability to deliver end-to-end first-class application experiences. Providing an application development platform to build business applications that power your digital transformation. Gartner, the leading research and advisory company, forecasts that more than 65% of all app development will be done via low-code by 2024.

Workflow It

The challenge in most modern enterprises is that work is siloed and occurring within disparate departmental systems of record. Departments have their own data and systems stored on legacy technologies. Siloed work lowers productivity and hinders user experience. Information doesn't flow across the enterprise.

ServiceNow excels at workflows for the modern enterprise. They are uniquely different with their approach which shares one data model, one architecture as well as many built in powerful capabilities to build cross-enterprise workflow. Whether the workflow is for IT, employees, customers or creators, work can be orchestrated across the enterprise and still be unique to each industry.

The platform provides developers with the ability to deliver multi-channel end-to-end first-class application experiences.

Gartner forecasts that more than 65% of all app developments will be done via low-code by 2024. ServiceNow was named a leader in the 2020 Gartner Magic Quadrant for enterprise low-code app platforms.

Organizations adopt the Now Platform from ServiceNow for many reasons:

- Change and **modernize** manual business processes that are unfit for the needs of today's business environment.
- Develop new **integrated** digital experiences
- Resolve a lack of **specialized** software development skills

Businesses need a brand-new way to build rich enterprise applications faster, with greater visibility and scale, with lower cost and fewer resources.

Modernizing Identity Governance

The enterprise Identity Governance and Administration landscape is still largely dominated by on-premise siloed software.



- **Identity outdated and siloed**, unfit for change
- Endless **backlog** due to lack of skills and resources
- **Risky app sprawl** caused by Shadow IT

The cost, complexity and ongoing maintenance of these installations causes friction and delays.

Coupled with the drive for application modernization and the flexibility and agility requirements behind the market models driven by digital transformation is forcing organizations to search for alternatives.

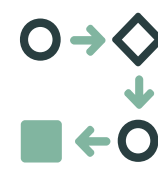
*Tempted to innovate and **Low Code** your own Digital Identity solution using **Now**? [Read more >](#)*



No to Pro Code



User Experience

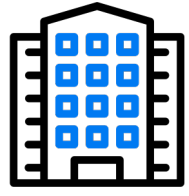


Workflow +
Integration



Intelligence

Identity. Delivered.



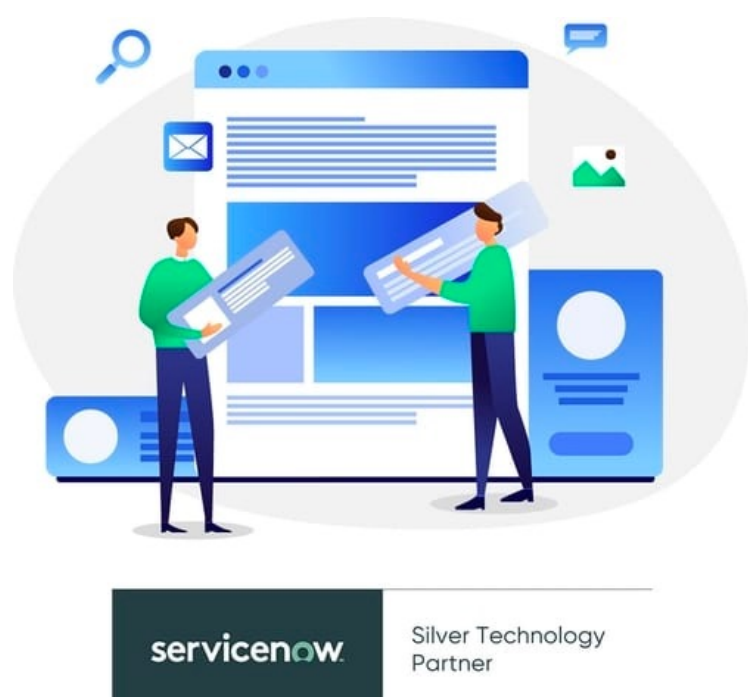
Identity governance and administration (IGA) assists businesses on their digital transformation journey. IGA removes user journey frictions and reduces security risks from new applications and partnerships by ensuring the right employees have the right access to perform their job.

Many businesses today are hampered by the lack of agility. Companies wait for their security to play catch-up instead of moving forward. Time-intensive and manual identity audits can take months to perform.

IGA clears both security and efficiency hurdles so that businesses can get back to doing what they do best. Unfortunately, IGA services have largely been built on weak legacy technology integrations.

Until now.

Built upon the ServiceNow Now Platform, Clear Sky IGA removes the need for a standalone IGA solution in favor of leveraging an existing platform.



IGA Where It Belongs

Clear Sky IGA reimagines IGA on the Now Platform. The IGA solution provides identity lifecycle management and governance solutions across a broad set of verticals.

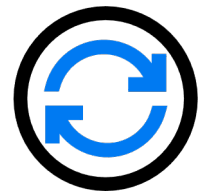
Our software transforms security teams' digital environments by finally aligning identity management with critical functions, including IT service management (ITSM); configuration management database (CMDB); governance, risk management, and compliance (GRC); and Security Operations (SecOps) into a centralized location. All identity-related data, events, user decisions and automation capability are available to your business applications running on the same Now Platform.

There's no doubt that Clear Sky IGA saves customers time and money with efficiency savings. Perhaps more importantly, with Clear Sky's automation tools, customers can use their existing Now Platform Service Portal to deliver an enterprise risk and security identity management system.

Clear Sky Benefits

- Quicker time to value. The flexibility of the Now Platform makes Clear Sky IGA configuration quick, easy, and can be tailored for your needs.
- Lower total cost of ownership. Clear Sky is a scalable cloud-based tool, delivered on the platform you already own and know.
- Providing additional value to your ServiceNow investments. Clear Sky provides an Identity context to ServiceNow applications, IRM/GRC, Security Operations, CMDB, ITSM as well as other ServiceNow solutions to create an integrated enterprise risk and privacy management solution.
- Less training and better user experience. Because employees are leveraging a system they already use, no additional training is needed to use the access request and certification portal.

IGA on the Now Platform



A Better Way to IGA

Identity Lifecycle Management

Access policies are critical to the way an organization manages the assignment and removal of security permissions. An IGA program ensures that entitlements are updated at all stages of an employee's time with your company.

Clear Sky IGA automates identity lifecycle management across the Now Platform. Sleep soundly knowing that anyone who has the need to access your business applications — whether these applications are in the cloud or on-premises — has the right amount of access at the right time.

Access Request

Employees and business partners often need to access IT resources to perform their job function. Spending time to figure out how and where to request that access doesn't help anyone. It also exposes your company to risk when security controls are circumvented or incorrectly provisioned.

Clear Sky IGA provides access request capabilities customized to your business' workflows. This means your approval workflows will always align with your business processes, without the need for extra training or operational changes.



Access Review

Clear Sky IGA simplifies access certification by enabling your team leaders and application owners to leverage the Now Platform, increasing speed and accuracy of attestation campaigns.

Access certifications give you visibility and control where managers have the freedom to decide what access is appropriate while being held accountable for these decisions. And by integrating with the Now Platform, the challenges of spreadsheet and email driven reviews vanish.

Workflow Management

Workflow flexibility and configurability is key when adopting IGA solutions. This need for flexibility is one reason why existing cloud-based IGA solutions have been slower to gain traction.

Clear Sky, being native to the ServiceNow Now Platform, benefits from the industry's leading digital workflow system, which processes over four billion monthly transactions. Clear Sky exposes IGA actions within the modern Flow Designer No/Low Code workflow system of ServiceNow.

Can't get enough Clear Sky content? Visit clearsky.com for the big picture.

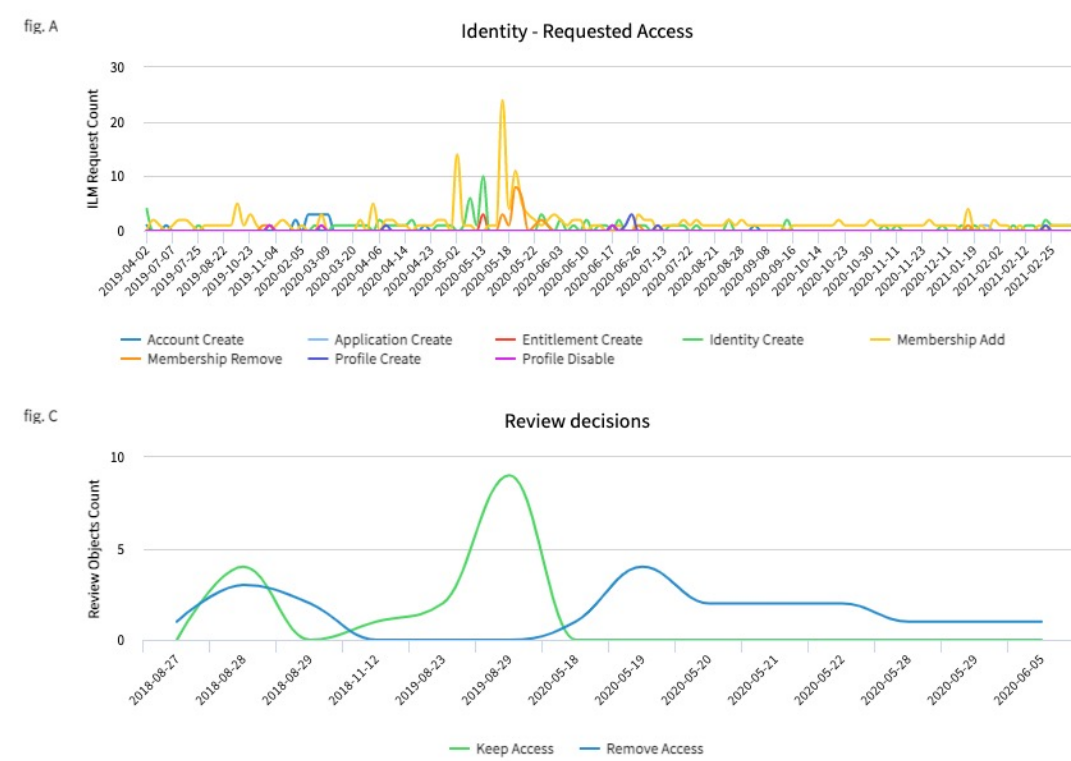
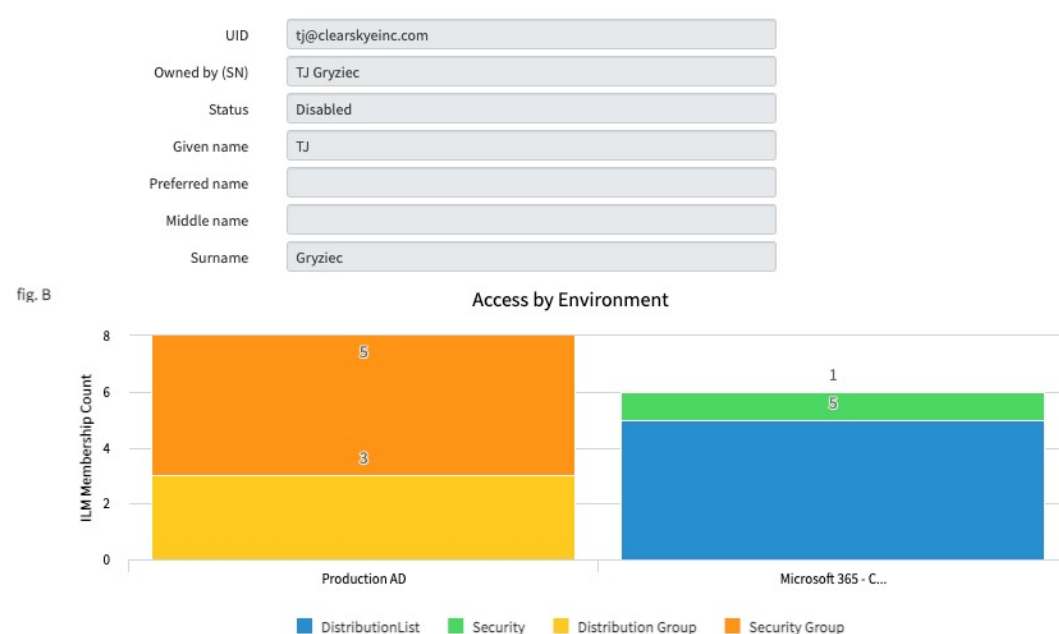


Clear Skye built an Identity + Access data model based on decades of MVP “pro-code” expertise in Identity Management and ServiceNow.

Identity Warehouse Data Structures

The ServiceNow platform provides persistent data services, namely table structures that are ready to use for business applications. Many of the tables are specific to apps, such as incident management or change management and each app & table have their own unique structure and attributes targeted at the use-cases of the application.

Clear Skye designed and built the Identity Warehouse table structure specific for Identity Governance and Access Management use cases. The Clear Skye Identity Warehouse is a native Now platform Identity data store that’s aware of identities, profiles, accounts, entitlements, roles, requests, approvals, identity tasks and the relationship between these components. The resulting data model is **flexible and extensible**, supporting any number of complex use cases that enterprise customers require. This data structure encompasses all objects required for Identity & Access data and is not available on ServiceNow by default.



Name	Environment	Account Type	Description	Status
1234@c.clearsky.io	Idaptive	Standard		Active
admin_tj@c.clearsky.io	Idaptive	Standard		Disabled
ThomasGryzlec@clearskylab.onmicrosoft.com	Microsoft 365 - Clear Skye Lab	(empty)		Disabled
tj@clearskyinc.com	OneLogin	Standard		Active
TJ34245	Production AD	Standard		Disabled
tj@clearskyinc.com	Service Now	(empty)		Active

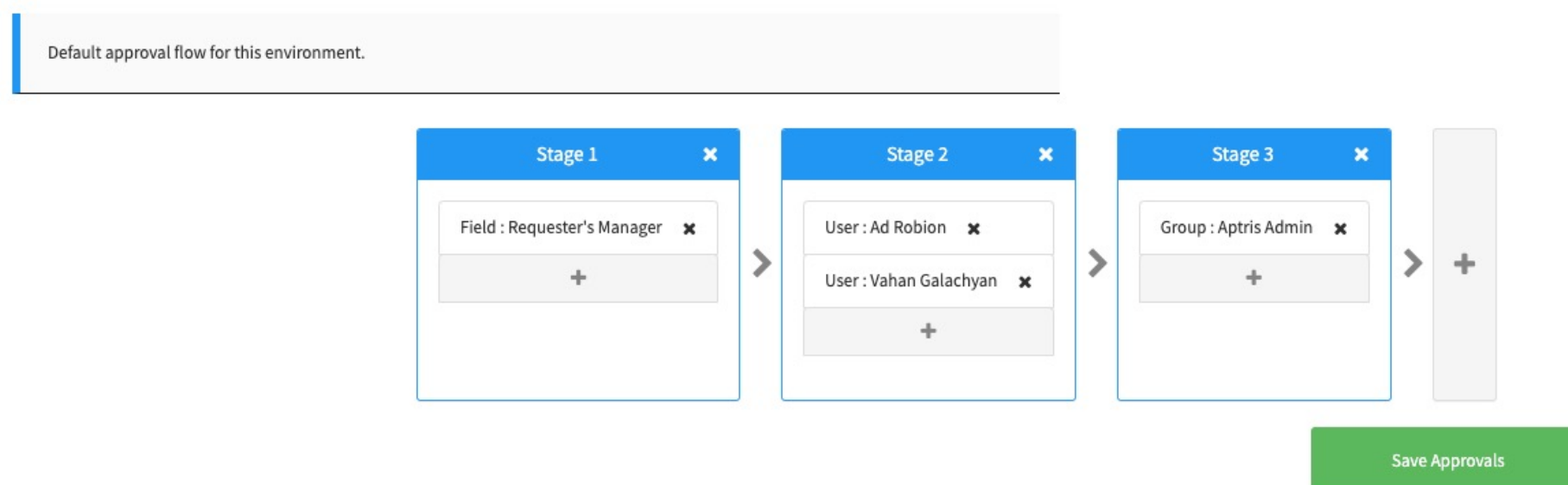
Approvals

ServiceNow has a built-in approval functionality designed for ITSM and business applications. ServiceNow approval functionality has a lot of great features such as, ensuring approver integrity - that only people that have been requested to approve can approve. Approvers can process their work either via inbound email or via interacting within Service Portal or Mobile interfaces which users are already be familiar with.

In contrast to ITSM and business-related processes, Identity and Access related processes can be so vast, and use-cases are so different that it's not feasible to use the built-in Approval functionality as it comes out-of-box. For one, developers create unique workflows and follow full SDLC process to promote any changes to production ServiceNow instances. Every entitlement would require its **own workflow** – this alone would make it almost impossible to create and maintain approval workflows for every single entitlement in the organization, especially if there're thousands of them.

Other challenges Clear Skye considered include the need to enforce separation of duties specific to access requests, for example, to ensure requesters are not the approvers.

Approvals



Clear Skye replaced development tasks with configurations available directly to the IAM Team.

The Clear Skye approach removes the need for ServiceNow developers to make approval-related changes.

Within each approval stage, approvers can be defined as users, groups or calculated contextually based on organizational data.

To solve these challenges, Clear Skye extended the native functionality of ServiceNow approvals while securing and revamping usability as related to Identity Governance & Access Management processes

Approvals (continued)

Beyond configuring approvals for individual entitlements, the IAM Team can define approvals scoped to classifications of objects. IGA provides the capability to define an entitlement type (e.g. name contains “SharePoint”) and route all those requests to a different set of approvers.

This gives the IAM Team very granular control over how enterprise access gets approved.

Additionally, Clear Skye’s approval engine is built with many other Identity & Access related nuances in mind. This includes **separation of duties** – ensuring that requester can never be the approver (approving one’s own access defeats the purpose of approvals and is against security principles). For these situations, the request will always be escalated to user’s manager and if their manager cannot be determined (if they’re on leave or left the organization), Clear Skye will further escalate the request to the IAM Team. In situations such as these, ServiceNow’s default approvals work differently and do not fit the use-case for Identity & Access-related processes.

An example of contextual approver can be the recipient's manager or the head of a specific physical office location – with Clear Skye the IAM Team doesn’t have to know who these users are, they can simply specify them based on organizational information.

Clear Skye extracts the complexity out of IGA approvals. approval stages, and context aware approval fields are extensible and reusable to meet your needs.

The image displays two screenshots of the Clear Skye approval configuration interface. The left screenshot, titled "Stage 4", shows three dropdown menus for configuration: "Approval Condition" (set to "First response from anyone"), "Approval Condition (group)" (set to "An approval from any group"), and "Rejection Condition" (set to "Reject the approval"). Below these are "Cancel" and "OK" buttons. The right screenshot, titled "New Approval", shows the "Approval Type" dropdown set to "Field". Below it is a search bar for "Field" with a dropdown list of options: "Account Owners Manager", "Cost Center Manager", "Entitlement Owner", "Requester's Department head", and "Requester's Manager".



Clear Skye Approvals are much simpler to configure. It’s easy to perform contextual configuration - deriving the approver based on organizational information.

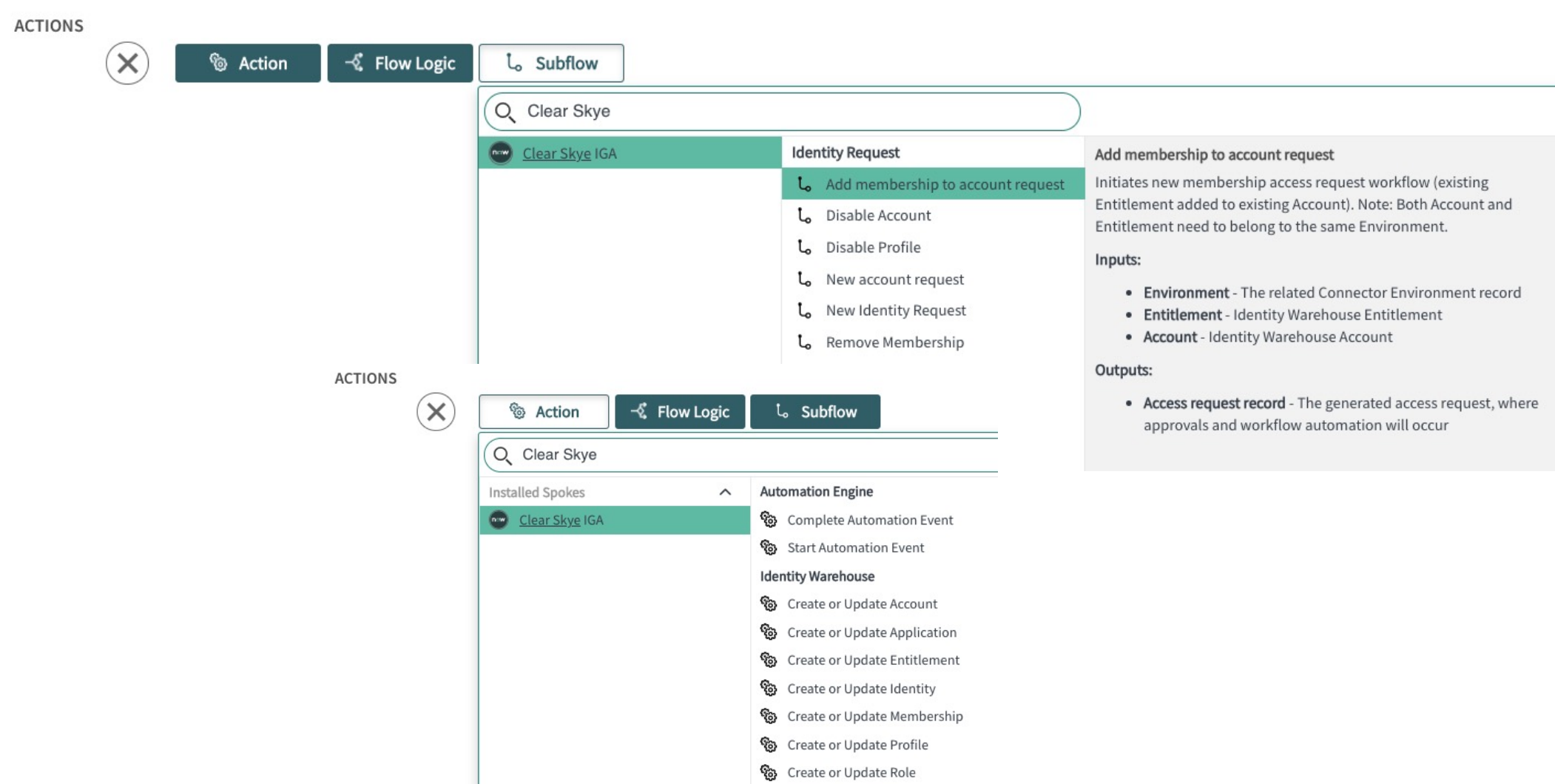
Separation of duties and other rules are enforced to ensure Identity & Access related processes are followed correctly.

Workflows and Flow Designer

Whether you're using workflow or the latest Flow Designer from ServiceNow, being able to map business processes is a powerful ServiceNow utility that is used by business and citizen developers to meet various business application requirements.

Workflows are typically built-in development, formally tested in UAT and published to Production. Any updates to workflows also need to follow the same SDLC process. While this works great for other ServiceNow applications, this often-time-consuming promotion process is not feasible for updating Identity & Access related processes.

To address this, Clear Skye provide an **IGA Flow Spoke** that enables both existing Flows and new Flows to benefit from Identity Actions in a No Code/Low Code manner. As a result, changes to Identity & Access related workflows can happen quickly and without burdening ServiceNow developers.



Clear Skye brings Identity Lifecycle Actions directly to Low code / No code flows on the Now platform.

The Clear Skye IGA spoke brings the world of IGA directly to Flow Designer. Take for example the scenario where a security incident record has been updated and requires that an employees needs to be suspended, including of all their accounts. Creating a Flow to trigger in such a scenario and call into Clear Skye using our Spoke is simple and an effective demonstration of the No Code/Low Code Now platform at work.

Automation that is fit for Identity needs

When compared to manual ITSM fulfillment there are many benefits to directly integrating your business systems that require governance with your IGA solution. End users won't wait as long for their access to be provisioned is just one, there won't be any manual mistakes is another and of course, data is more readily available in order to make business decisions.

In order to perform this "direct" connection between IGA and the target business application an integration, or connector, is required that operates at the API level between ServiceNow and the target application.

ServiceNow provides many integration methods for the retrieval and mastering of data in other systems including ServiceNow Data Sources and IntegrationHub. Orchestration is a ServiceNow component which enables the on-premise functionality through the MID Server. With help of Orchestration, ServiceNow can interface with on-premise data providers via JDBC or running scripts like bash or PowerShell.

Clear Skye leverages ServiceNow's platform integration methods and extends them by utilizing the Clear Skye Automation Engine that provides a unified framework for all Identity & Access related integrations. Out of the box ServiceNow integrations are challenging when used for IGA as they are typically handled on ad-hoc basis - for every integration there's a unique workflow which performs requested actions.

This approach is **not scalable** for Identity & Access related processes.

Another challenge is the logical order, the prioritization, in which tasks are executed. The execution of integration jobs take place in linear fashion, think of a queue with a first in, first out-processing method. A situation may occur that creates a higher priority task to be performed but there could be many other tasks in the queue already

This isn't suitable for executing an Identity lifecycle. Within the world of IGA it is necessary to prioritize certain lifecycle actions given their security risk – such as removing access for a leaver is higher priority than performing onboarding of access. For example, the scenario where the IGA system is performing an onboarding (joiner) provisioning workflow for 50 interns, and an emergency termination request is submitted. Typically, the 50 interns would be provisioned prior to the access removal taking place. Clear Skye's execution of work is tuned to the sensitive nature of such Identity tasks.

To mitigate this challenge, Clear Skye built the Automation Engine which includes job prioritization. Allowing IGA to prioritize jobs (terminations and removal of access) before lower priority automations complete.

In addition to job prioritization, the Automation Engine manages other aspects of integrations such as error and retry handling, and actions for failed automation events.

The Clear Skye Automation Engine is flexible to allow for extensibility. If additional tasks need to take place prior access provisioning or after - Automation Engine supports these additions.

Clear Skye's Automation Engine provides a unified and extensible framework for managing all Identity Governance fulfillment needs.

Connectivity

The foundation of Identity Governance is the assembly and regular upkeep of an enterprise-wide single source of truth, incorporating both your business critical and non-business critical applications. Clear Skye refers to this as the Identity Warehouse. The warehouse contains all worker identities and their related access permissions that are derived from the IT business applications they use. This Warehouse is a Clear Skye component on the Now platform and becomes the single trusted source of truth of Identities and permissions for your enterprise. Providing you the answer to the question “who has what access and how did they obtain this access?”.

In order to build the Identity warehouse this security information needs to be gathered from the business applications and computer systems that run the enterprise. This can be accomplished several ways, the most common is a direct connection between the IGA system and the target application, this is referred to as a direct connector. These connectors, driven by digital workflow, are also responsible for the fulfillment of IT related access that occur from a person’s employment lifecycle changes, such as onboarding, transferring job role and finally offboarding.

Clear Skye developed a Connector framework natively within ServiceNow that provides out of the box Identity Lifecycle Capabilities.

Clear Skye Connector Capabilities map the need to provision a target system or business applications directly onto the accepted IGA Lifecycle actions of Joiner, Mover and Leaver.

Clear Skye provides a library of out of the box connectors for common systems such as SCIM, Microsoft 365, Exchange Online, LDAP, Scripted Powershell, Oracle, Azure Active Directory, Active Directory, OKTA, SAP ERP and Workday. Clear Skye continues to build native integrations with each product release. We also provide Github examples of developing new connector types.

In addition, recent updates to Clear Skye IGA enable the use of ServiceNow's IntegrationHub spokes as Clear Skye connectors with minimal configuration required.

Clear Skye's Connector framework natively supports IntegrationHub Spoke Flows

What IntegrationHub is lacking regarding IGA

One could ask the question, “do I need IGA if I already have IntegrationHub?” This is a fair question and sometimes misunderstood. Importantly the IntegrationHub spokes from ServiceNow are not digital workflows, they do not contain any business logic or intelligence themselves.

They do not solve the Identity efficiency and audit challenges for your organization. Rather, these Now platform spokes are an open window, an API, onto a specific function on a remote system.

Clear Skye’s connector framework is extensible and Clear Skye extended the framework to include IntegrationHub so the Spokes provided by ServiceNow perform and act just like Clear Skye Connectors. Providing you with the option to treat IntegrationHub Spokes in the same way as a native Clear Skye connector that are provided out of the box.

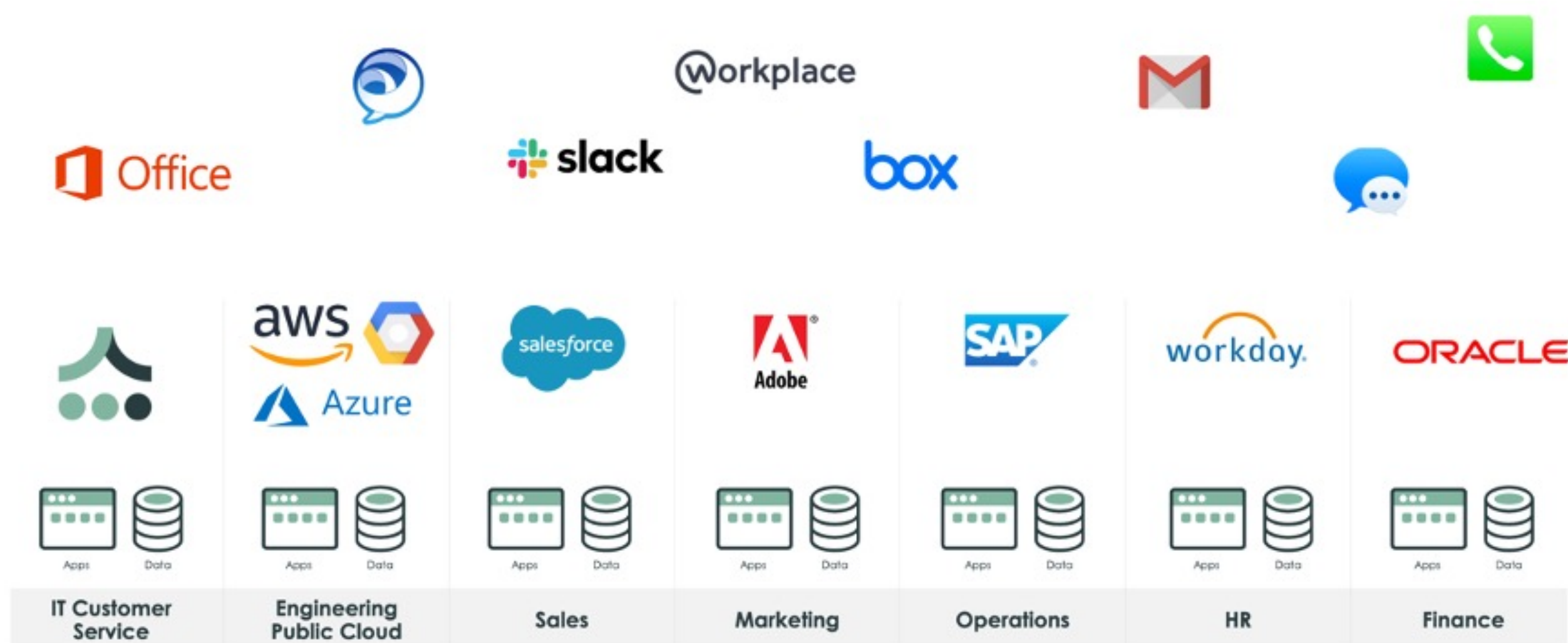
This means Clear Skye is uniquely positioned to leverage the IntegrationHub for connectivity if a customer has this component licensed from ServiceNow.

Clear Skye provides the overall policy framework within which the Spokes play a particular role of integration; enabling the spokes to be **automated** in order to be used as fulfillment mechanisms within IGA workflow.

In summary, IntegrationHub Spokes are not IGA connectors. However, IntegrationHub, if licensed, together with Clear Skye, can play a **vital role** in extending the connectivity provided by IGA to include nearly 100 different business applications.

- A strategic cloud platform approach to integrations
- Competitive time to market, no need to wait
- Less customization, reduced TCO, financial savings
- Greater reach across your digital landscape

Do we need IGA if we already own IntegrationHub from ServiceNow?



Requests

ServiceNow requests leverage the native ServiceNow Task table which provides pre-built functionality - child tasks, relationships, assignments, prioritizations, SLAs and ability to demonstrate all this data on dashboards. Just like with many other applications on ServiceNow, ITSM applications extend the task table. In-fact any application that assigns requests to a fulfiller is extended from the task table.

Clear Skye extends the Task table in order to support the concepts of Identity Governance & Access Management Identity functionality. As a result, task assignments become fulfiller-friendly. For example, provisioning a new vendor, may require creating 2 accounts and assigning 15 entitlements – 17 requests in total. Instead of generating 17 different requests and 17 separate email notifications, Identity Tasks allow for the assignment of a single request to a fulfiller without overburdening them with multiple tasks and notifications.

Additional intelligence on top of ServiceNow’s task table. This includes request stages, pre-processing and post-processing, and attributes related to provisioning access - all of this is included in Clear Skye’s Identity & Access data model.

Security

As a result of Clear Skye’s background in information security, all components are built with security-first mindset. Clear Skye developed security controls to protect Identity & Access data against unauthorized exposure and tampering. This includes controls to address challenges such as ensuring application data which should not be modified, cannot be modified by administrators (such as completed review attestations).

Additionally, most ServiceNow applications are typically available to all ServiceNow admins, even if different admins aren’t meant to have the same access. For example, a vendor who’s building additional functionality for ITSM suite, may not need access to other areas of the ServiceNow instance, especially the Identity & Access related data. Clear Skye ensures that the integrity of Enterprise Identity Program is protected by leveraging existing and proven ServiceNow security controls. One of these controls is utilizing Protected Application functionality to prevent cross-application administration and enforce separation of duties.

All Clear Skye IGA releases go through the ServiceNow TPP certification process.

Every version of Clear Skye IGA goes through a stringent review process for best practices, performance, security and is certified by ServiceNow.

Catalog

ServiceNow provides ways to create user interfaces through catalog items and record producers. These are consolidated into single Catalog where users could request items. The Catalogs are typically used to submit incidents or request new items such as phones or laptops. Generally, customers use this functionality as an interface between requesters and fulfillers. New Catalog items can be created for specific use cases or new request types. As a result, customers end-up creating multiple catalog items for fulfilling access requests. This becomes cumbersome and heavily reliant on development - IAM Teams have to put-in requests to ServiceNow developers to create catalogs and workflows; each request may take one to two weeks to complete due to overall SDLC lifecycle (development in Dev environment, move to UAT for testing and remediation and finally deploy to production).

Clear Skye built Catalogs which are intelligent and flexible. These Catalogs are built for requesting access, onboarding users, management and creation of new entitlements and requesting new accounts. The Access Request Catalog selection can be driven by resources and resource types defined directly by the IAM Team. For example, the IAM Team can define a resource type called “Physical Locations” and include actual offices or retail centers where users could request access to.

As a result, catalog resources and resources types are managed by the IAM Team - they no longer are required to work with ServiceNow developers to create new Catalog items and wait for the functionality to be pushed into production.

Additionally, Clear Skye Catalogs have intelligence around how the access is requested; entitlements can be presented from a static list or generated dynamically based on conditions; Catalog items are also aware of accounts the requester already owns. This makes it very easy for an IAM team to setup resources, setup approvers and offer new access point requests to end-users.

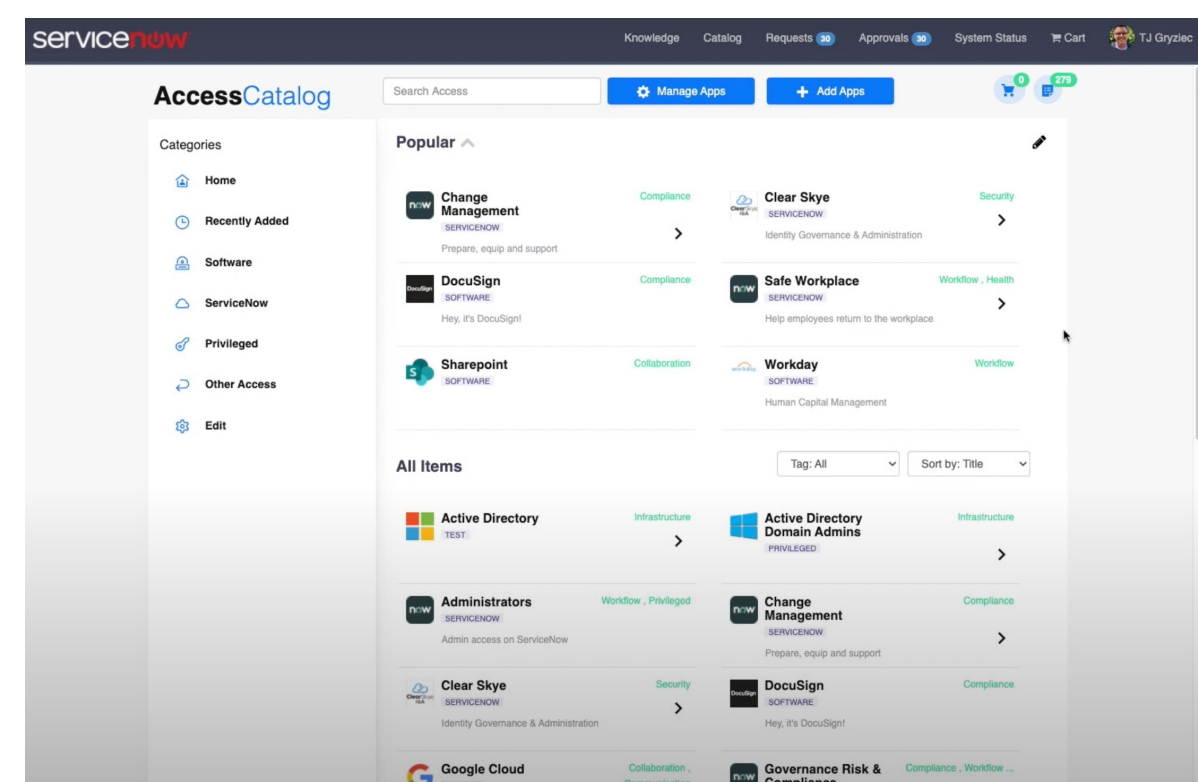
**ServiceNow
provides the
vehicle.**

**Clear Skye creates
policy framework,
so customers
don't end up back
at the drawing
board every time.**

Service Portals

The ServiceNow platform includes a Service Portal to provide end-users with streamlined experience. Just like other ServiceNow components, the Service Portal can be developed on, and integrated into the overall enterprise offering.

Clear Skye leverages the Service Portal to build user interfaces (UIs) that are easily understandable by business users. Not every business user may be familiar with ServiceNow's native UI, so Clear Skye extended functionality past the traditional UI with modern, intuitive interfaces. The updated UIs provide easier ways to use the application and reduce support requests to IAM Teams.



Analytics

ServiceNow provides a reporting framework and the capability to visualize different metrics via various tools such as pie charts, graph charts or time series charts. Clear Sky IGA components utilize these same mechanics for reporting and analytics against its structured data warehouse. As a result, ServiceNow's native tools can report on relations of Identity and Access related information based on a series of attributes and parameters. Reporting can be done on number attributes, including data such as last password resets, last logins or who owns the accounts or entitlements.

Clear Sky's Identity & Access data model provides a uniform mechanism to be leveraged by ServiceNow's reporting and analytics engine that provides the IAM Team the capability to generate reports as needed. Clear Sky IGA provides out-of-box dashboards which focus on most important metrics such as access audits, access provisioning and organizational policies. In addition to dashboards, Clear Sky IGA includes dozens out of box reports which demonstrate organizational Identity & Access Governance posture. Along with others, included are reports on accounts that haven't logged-in for a long time and accounts that are owned by departed employees.

ServiceNow provides mechanisms to run reports. Clear Sky provides underlying intelligence and the structure around data itself.

Notifications

ServiceNow provides out-of-box notification capabilities. Clear Sky utilizes these capabilities and for all notifications related to Identity & Access related events. To do this, Clear Sky provide notification templates and notifications which are pre-configured with triggers based on Identity & Access events.

Clear Sky provides the ability to brand all Identity notifications with a change of a single value – for example, to remove the need to touch every notification template when updating a company logo.

Clear Sky is always innovating and our customers can look forward to rich ServiceNow Virtual Agent conversations as part of IGA notifications in the coming future.

Conclusion

Your organization's business and security needs cannot and should not wait. Clear Sky IGA is the accumulation of many years of Pro-Code development on the Now Platform by industry experts both from the world of Identity and ServiceNow working towards a common goal. To provide a "Better Way to IGA" using configuration and Now digital experiences to assist your organizations goals in both efficiency, risk management and audit.

Clear Sky IGA is a native ServiceNow "Built On Now" solution that is certified and reviewed for best practice and security by ServiceNow themselves.

Clear Sky **enhanced and adapted** the Now Platform to fit the needs of IGA so you don't have to.

The Clear Sky solution is available directly from the ServiceNow Store.

The screenshot displays the ServiceNow Store interface for the Clear Sky IGA application. At the top, there is a search bar with 'Clear skye' entered and a 'Search' button. The main content area features the Clear Sky IGA logo and title, followed by a 'Request App' button and a 'Request Trial' button. Below this, there are links for 'Contact Seller' and 'View Profile'. The product details section includes a 'Summary' with text describing the IGA solution, a 'Key Features' section with 'Manage Enterprise Access in ServiceNow', and a 'Summary' section with a line graph showing data trends. The right sidebar contains sections for 'Type' (Standalone Application), 'Built on' (Now), 'Version' (3.71), 'Dependencies and Licensing', 'Compatibility' (Paris, Orlando), 'Supporting Links and Docs', 'Support Contacts', and 'Industry' (All).

LEARN MORE ABOUT
CLEAR SKYE

Visit www.clearsky.com to learn what others – from Gartner to KuppingerCole – are saying about Clear Sky.