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WORK at LIGHTSPEED

What is new in Discovery and Service Mapping

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ServiceNow

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Discovery Product Manager
ServiceNow

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servicenow

Speaker Introduction



Name: Noam Biran

Title: Director, Product Management, ITOM

Function: Product Management

Company: ServiceNow

Experience: 8 years in ServiceNow (5 in Neebula), over 20 years in ITOM in both large and small software vendors

Expertise: ITOM, BSM, Availability Management (Event, Monitoring), CMDB, Discovery

Achievements: Product lead for ServiceWatch from inception to maturity, co-founder of Appilog

Current Projects: Managing roadmap and vision of ITOM's Event, Discovery and Mapping products

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Speaker Introduction



Name: Bradley Owen

Title: Product Manager

Function: Discovery and MID Server

Company: ServiceNow, ITOM

Experience: 5 years at ServiceNow, 15 years in consulting and development with EDS/HP, Honeywell, Cask

Expertise: Product Management, Services Product Management, Strategic Partnerships

Focus Areas: Rethinking Discovery from data consumer and user perspectives

Other Interests: Founded SPARKprogramming.org, a STEM focused 501(c)(3) non-profit with a mission of inspiring the next generation of programmers.

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Joint Discovery/Mapping Vision

- 3 phased approach:



- Shared features (Jakarta):
  - Configuration file tracking
  - Cloud
  - More to come

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Discovery – What's New

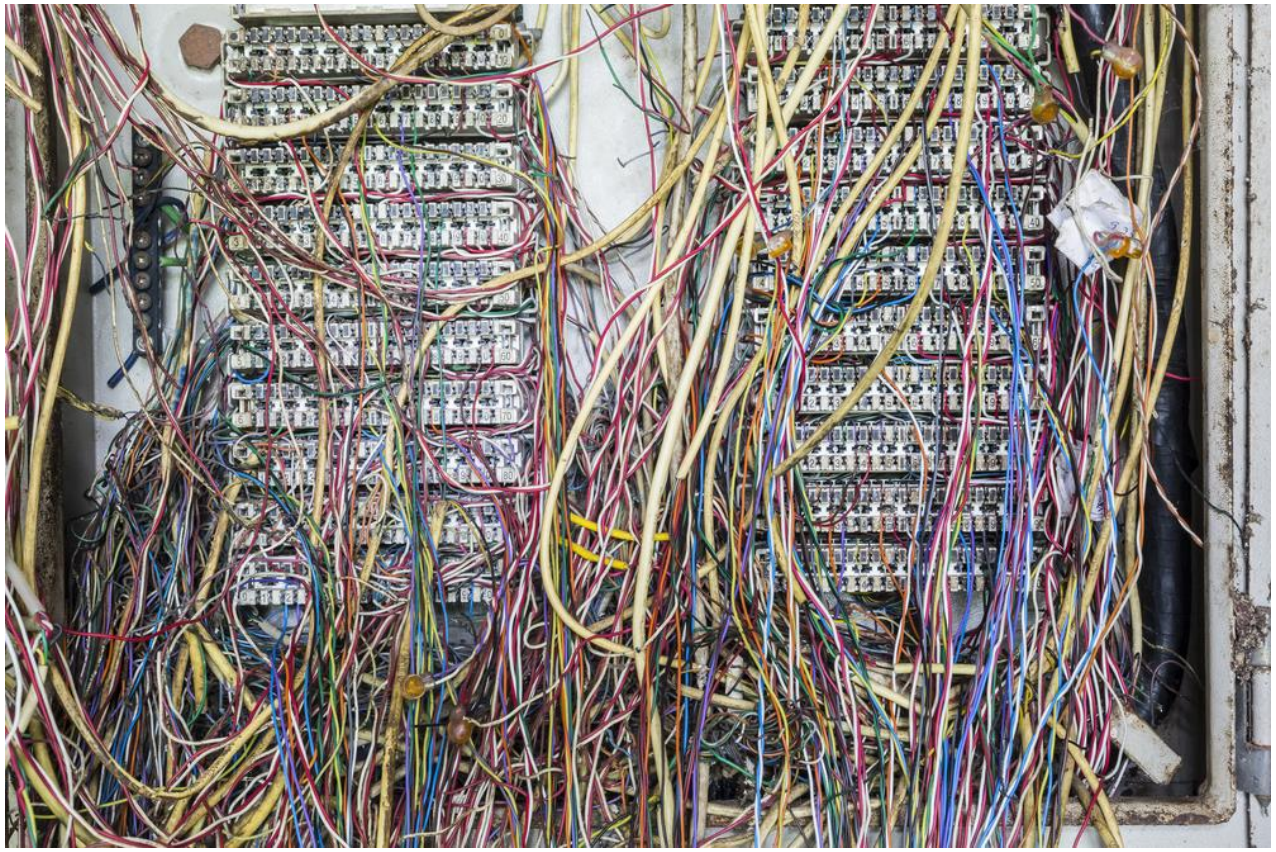
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Agenda

- Discovery Overview
- Istanbul and Jakarta Updates for Discovery
- External Credential Storage
- Options for Extending Discovery
- Road Ahead

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Why Discovery and Service Mapping?



- Eliminate Service Outages
- When things go wrong, it is too late
- Get ahead of outages by knowing your stuff!
- Create and maintain a service-aware CMDB

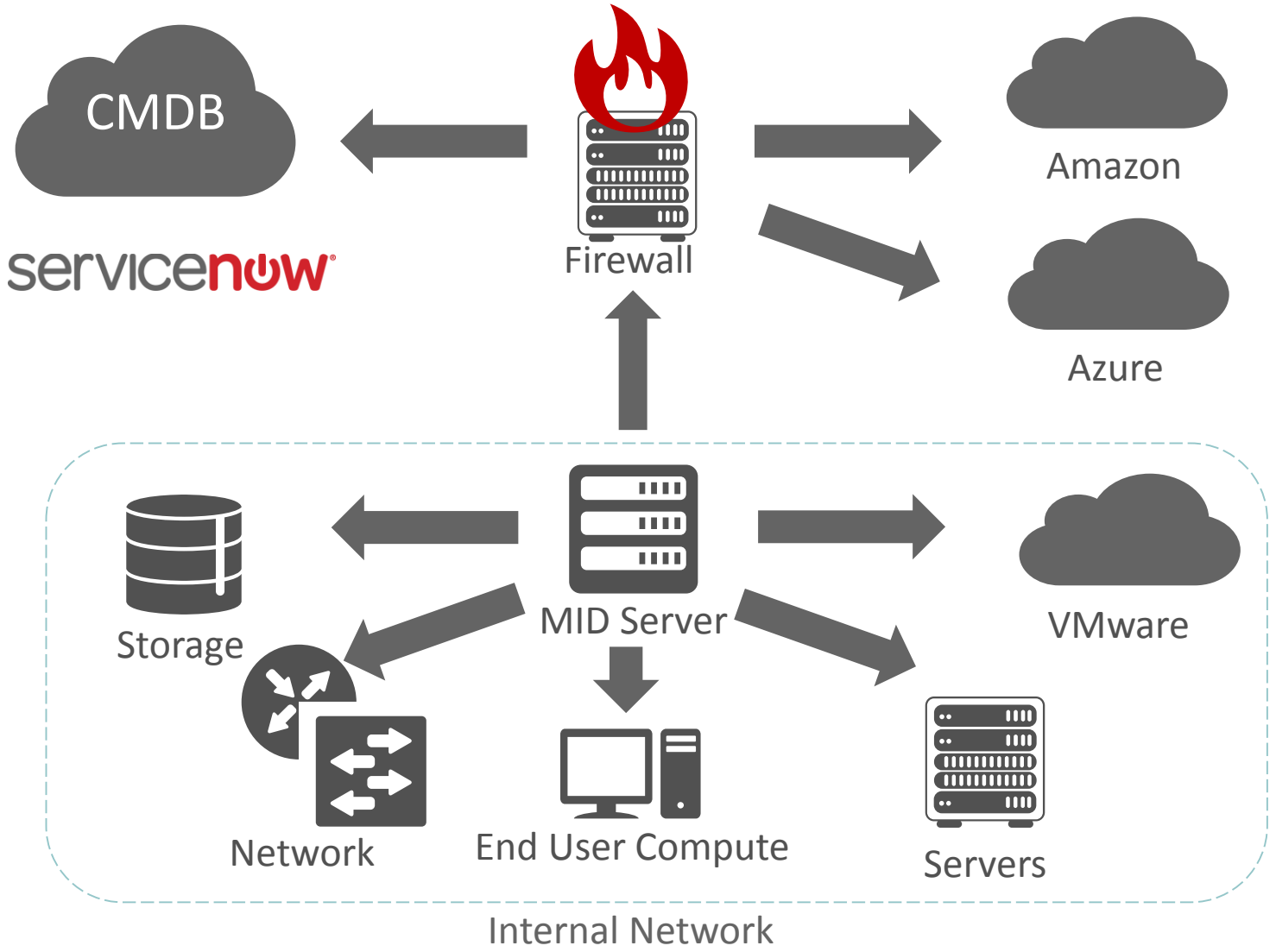
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Discovery Architecture

- Agentless
- Extensible
- Scalable

Leverages MID Server

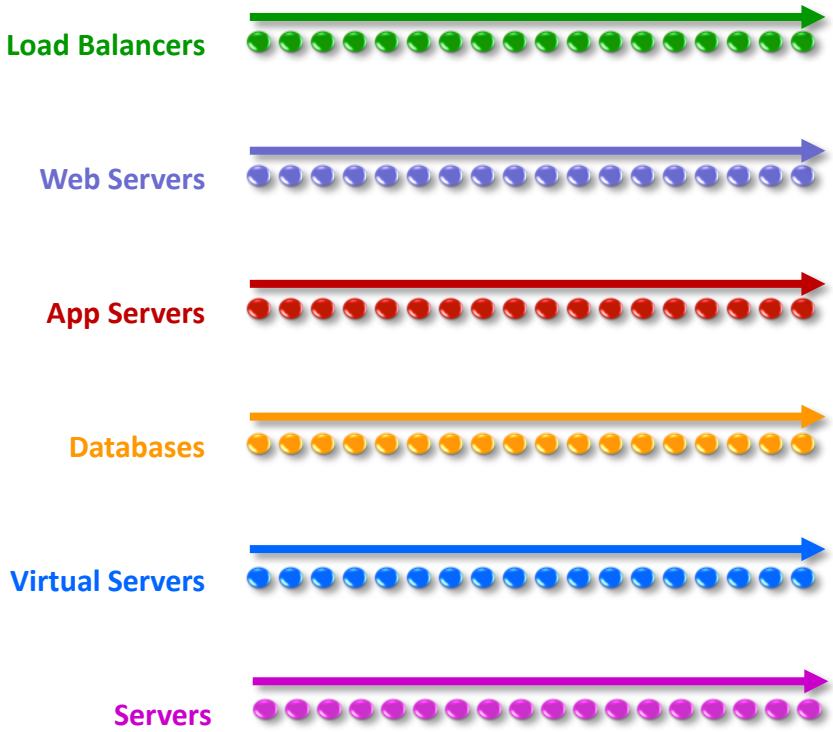
- Lightweight secure data collector for **outbound** communication, using 128bit SSL.

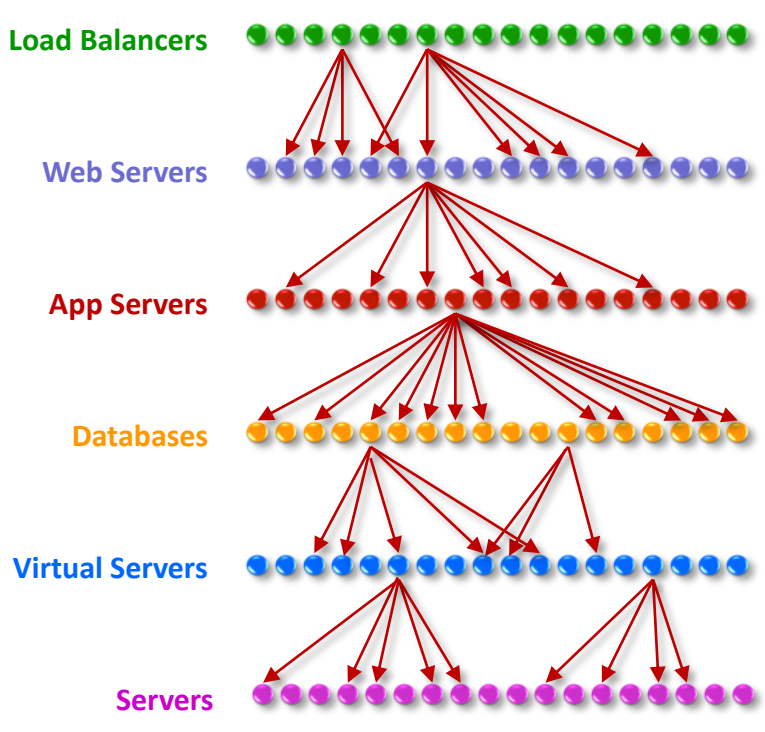


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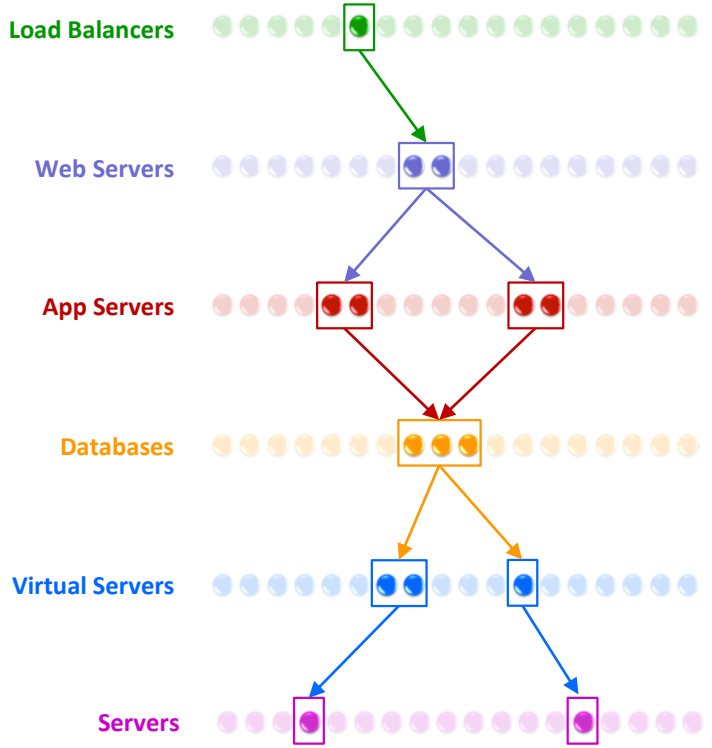
Horizontal Discovery + Top-Down Service Mapping

Horizontal Discovery





"Top-Down" Discovery



Infrastructure Discovery By Domain

Application Dependency Mapping

Service Dependency Mapping

Discovery + **Service Mapping**

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MID Servers - Critical Piece of Infrastructure

Multiple investments in MID server technology

- NEW in Istanbul – assign applications to MID servers for simplified management
- NEW in Jakarta – Performance alerting in platform
- NEW in Jakarta - automatically assign IP ranges to MID Servers:

Determine all subnets in environment



Assign reachable subnets to MID servers



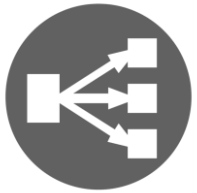
Determine where new MID servers are needed

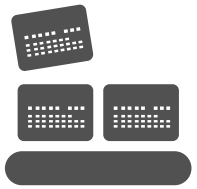


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New Discovery Patterns

- Docker - usage increasing as an container technology of choice
  - Istanbul - Engines, Containers, Global Images and Local Images
- Microsoft and Oracle patterns include expanded attribute discovery
  - Jakarta - Additional attributes for Oracle Database options installed
  - Jakarta - Microsoft SQL, Exchange and Server options
  - Jakarta - Seamless integration with new Premium Software Asset Management
- Application patterns
  - Jakarta – Cloud hostless application discovery
  - Jakarta - Additional cloud discovery (AWS ELB and RDB, Azure DB and LB)
  - Jakarta – serverless discovery – using a REST API directly
- Patterns for Load Balancers
  - Jakarta - Available for new instances





docker



Microsoft



Oracle



Amazon

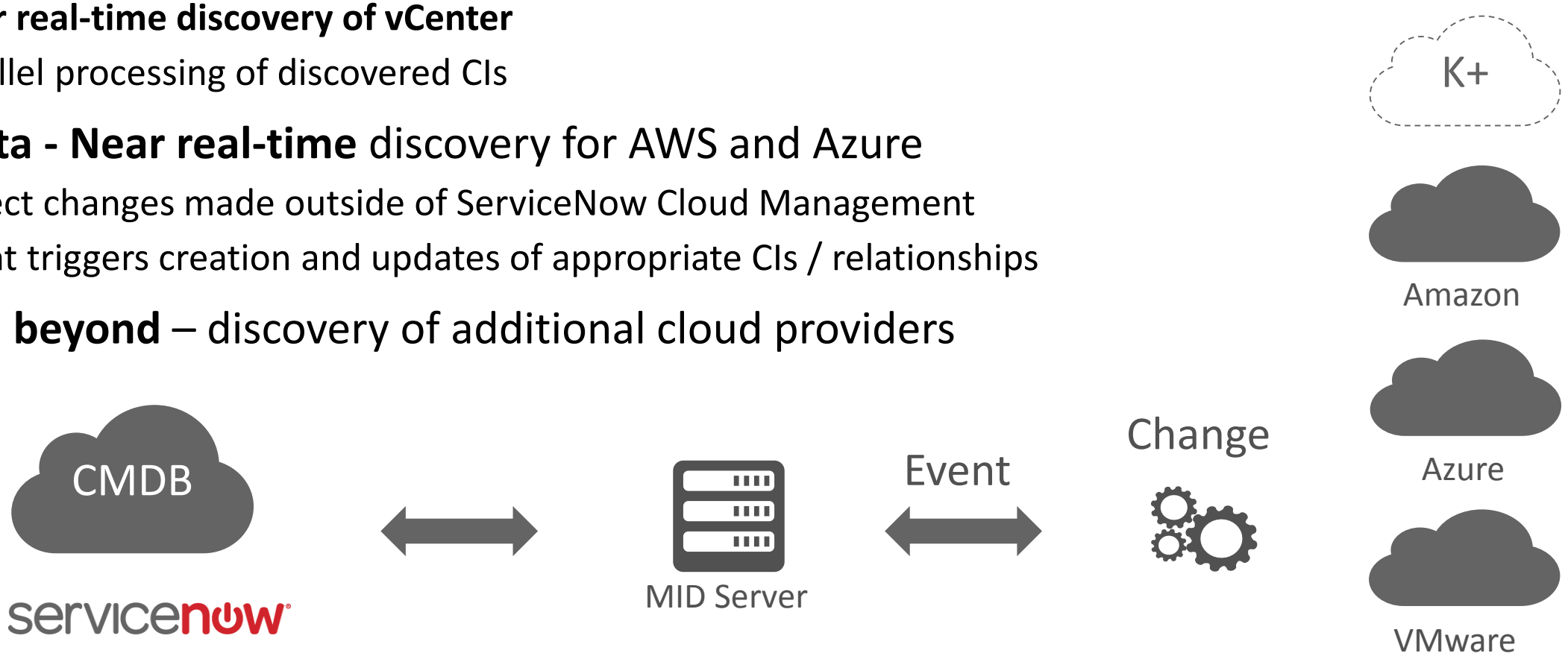


Azure

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Cloud Discovery

- **Istanbul - Large vCenter Support**
  - **Near real-time discovery of vCenter**
  - Parallel processing of discovered CIs
- **Jakarta - Near real-time** discovery for AWS and Azure
  - Detect changes made outside of ServiceNow Cloud Management
  - event triggers creation and updates of appropriate CIs / relationships
- **K and beyond** – discovery of additional cloud providers

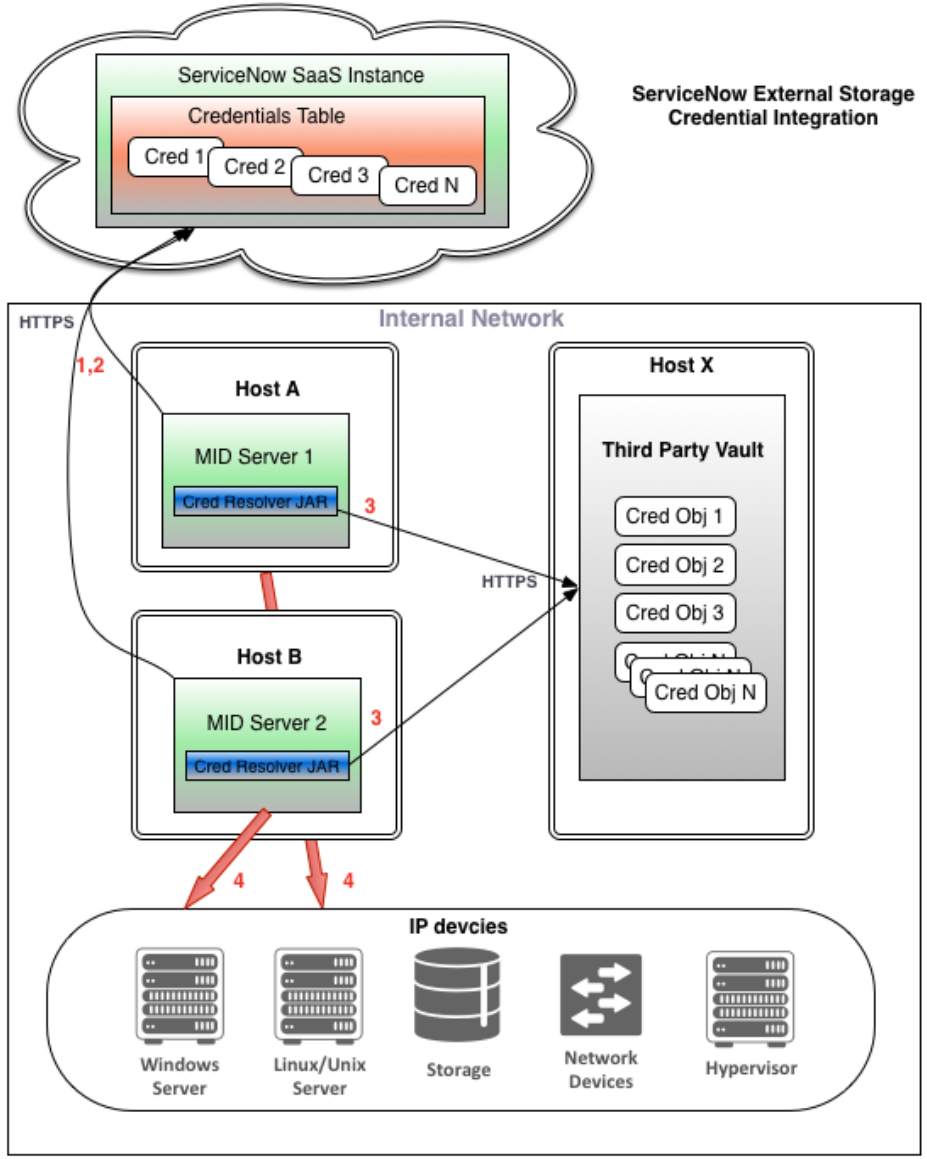


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Discovery – Security First (not new)

- New privileged command options in Istanbul
  - Alternatives to sudo
  - pbrun, pfexec, dzdo

- External Credential Storage API
  - Integrate with 3rd party solution or bespoke tools
  - Support for credential rotation



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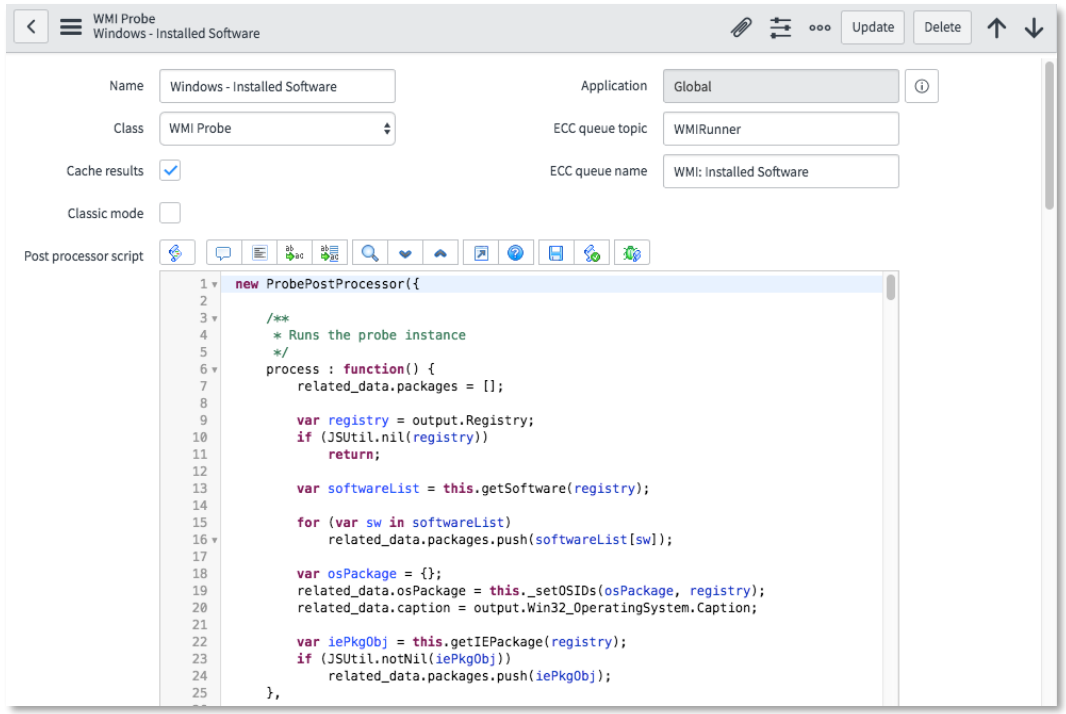
Options for Extending Discovery

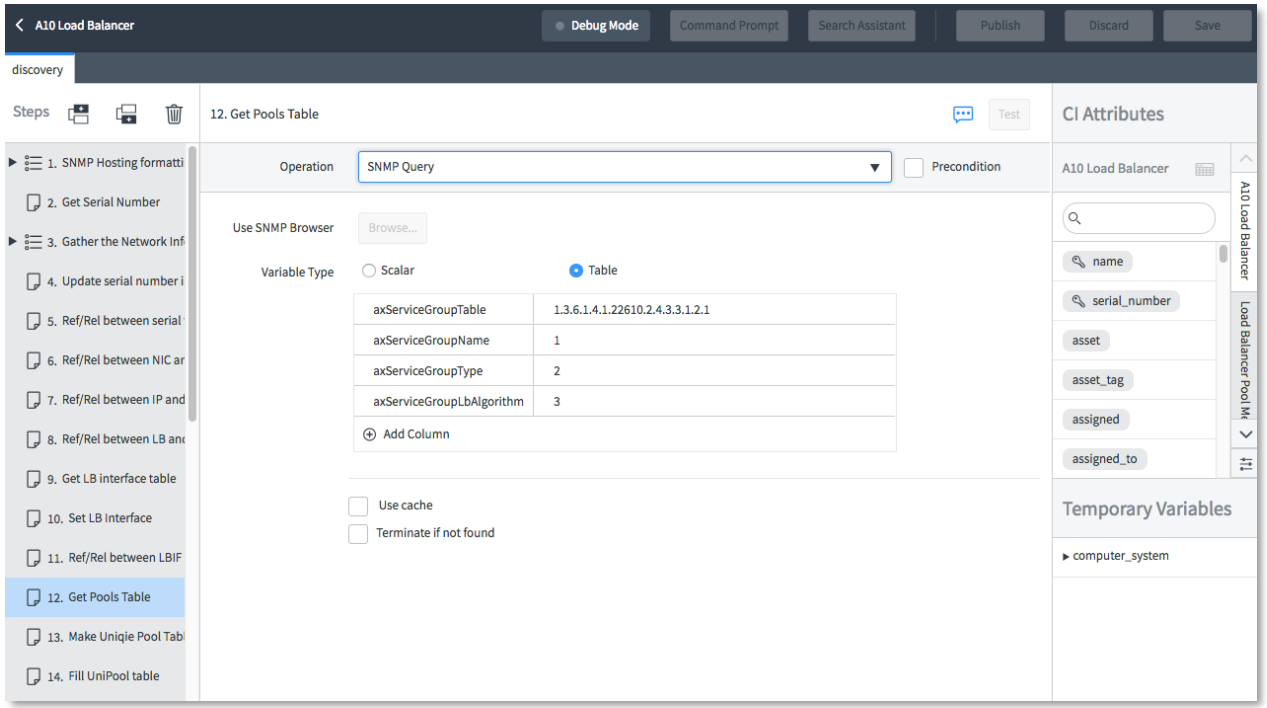
Probes and Sensors

- Easily configure using javascript
- Continue to build using existing probes or create new ones

Pattern based discovery – create patterns for:

- **Infrastructure**– for Horizontal Discovery
- **Application**– for Horizontal Discovery and top-down Service Mapping





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Road Ahead for Discovery

Addressing the Challenges our Customers are Facing

- **Discovery is a journey** – requiring planning and measurable progress toward goals and assistance in troubleshooting
- **CMDB quality** – want to update specific classes on different scheduled basis – schedules are challenging
- **Coverage** - Discovery of new content through native APIs (storage, LBs)
- **Security** – using agentless discovery requires credentials and security stakeholder buy-in

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Service Mapping – What's New

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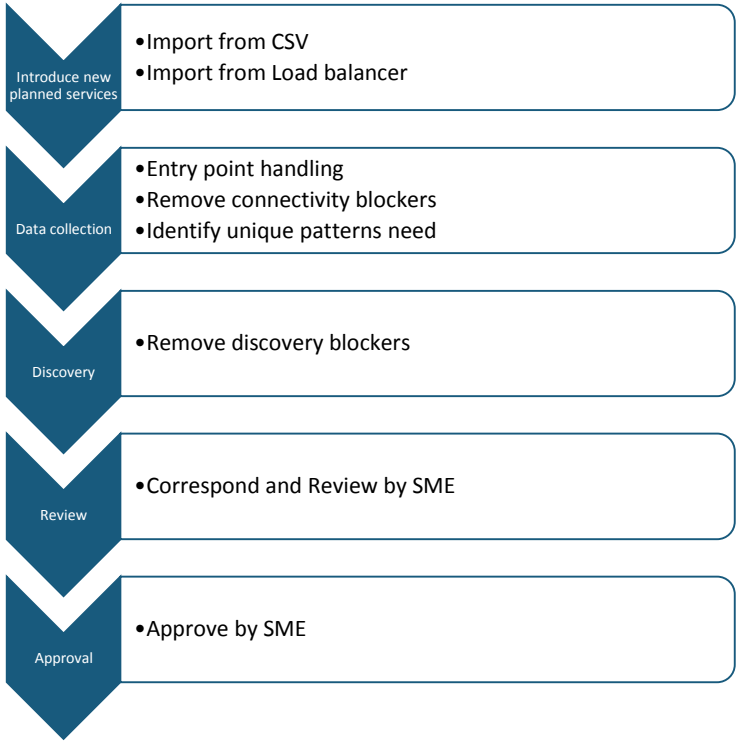
Agenda

- Service Map Planner
- Guided Pattern Creation
- End-to-end Cloud Mapping
- Configuration file change tracking

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Service Map Planner

Business service life cycle guidance from planning to approval for a shorter time to value



- **Structure** and **streamline** mapping deployment process
- **Simplify** planned business services data collection in a central repository
- Tools to **enable** the team remove blockers before the discovery starts
- **Ease** communication between technical and business owners to test and review the service
- An incubation place for the planned business service until it is ready

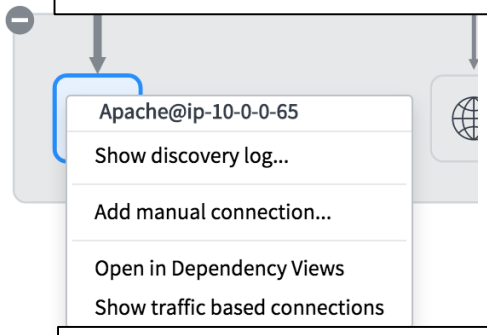
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Guided Pattern Creation

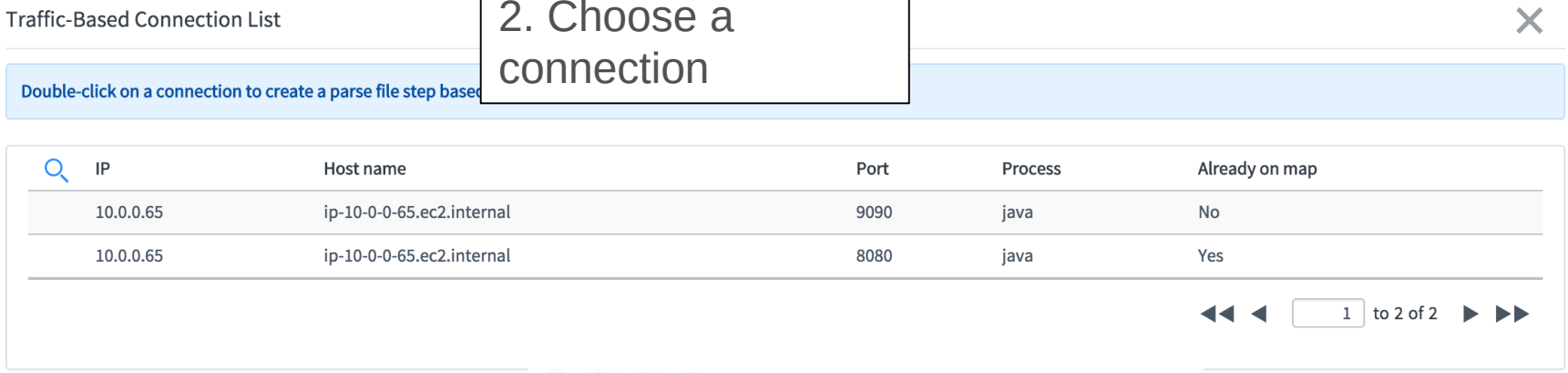
- Pattern enrichment is an integral part of most Service Mapping deployments, in order to handle proprietary configurations
- Jakarta provides guidance for the Service Mapping admin through enriching existing patterns to support data in configuration files
- Reduces dependency on application owners
- Streamlines the Service Mapping deployment

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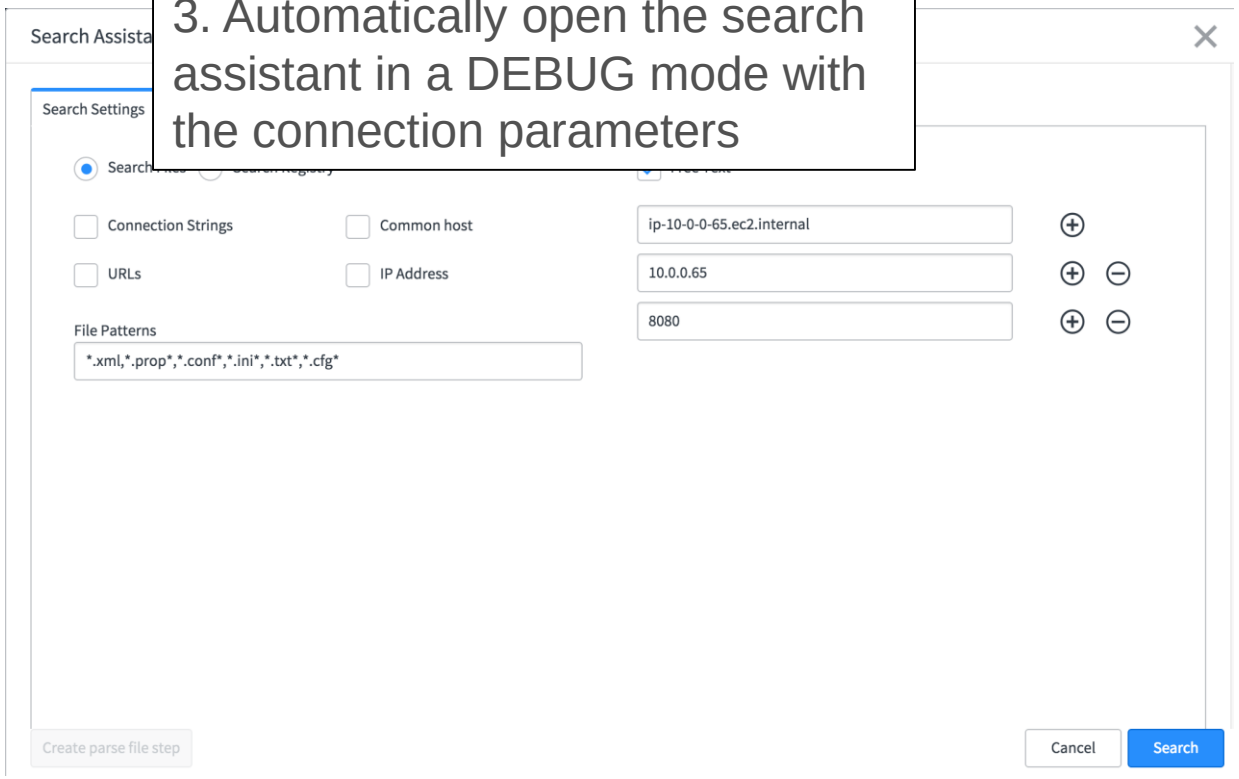
1. Show traffic based connections



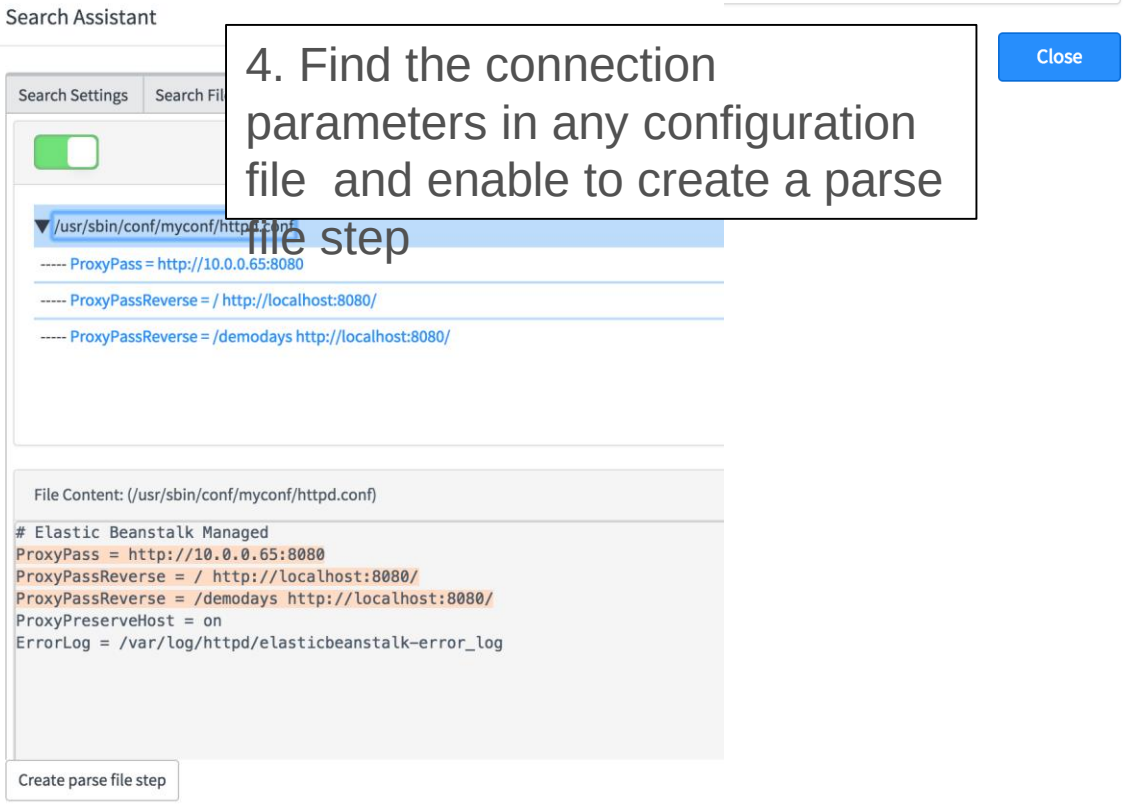
2. Choose a connection



3. Automatically open the search assistant in a DEBUG mode with the connection parameters



4. Find the connection parameters in any configuration file and enable to create a parse file step



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Temp for parse file creation

Steps

1. Parse 'httpd.conf'

(*) 1. Parse 'httpd.conf'

A complete parse file operation on the selected configuration file and search result with an associated variable

Test

Operation: Parse Fil

Precondition

1. Select File: "/usr/sbin/conf/myconf/httpd.conf"

Browse...

Retrieve File Content

2. Define Parsing: Delimited Text

Include Lines

Exclude Lines

Output

```
# Elastic Beanstalk Managed
ProxyPass = http://10.0.0.65:8080
ProxyPassReverse = / http://localhost:8080/
ProxyPassReverse = /demodays http://localhost:8080/
ProxyPreserveHost = on
ErrorLog = /var/log/httpd/elasticbeanstalk-error_log
```

Variables: Table / List

OutGoingConnection

Add Variable

Line Separator: Use default line separator

Delimiters: '//'

Positions: 3

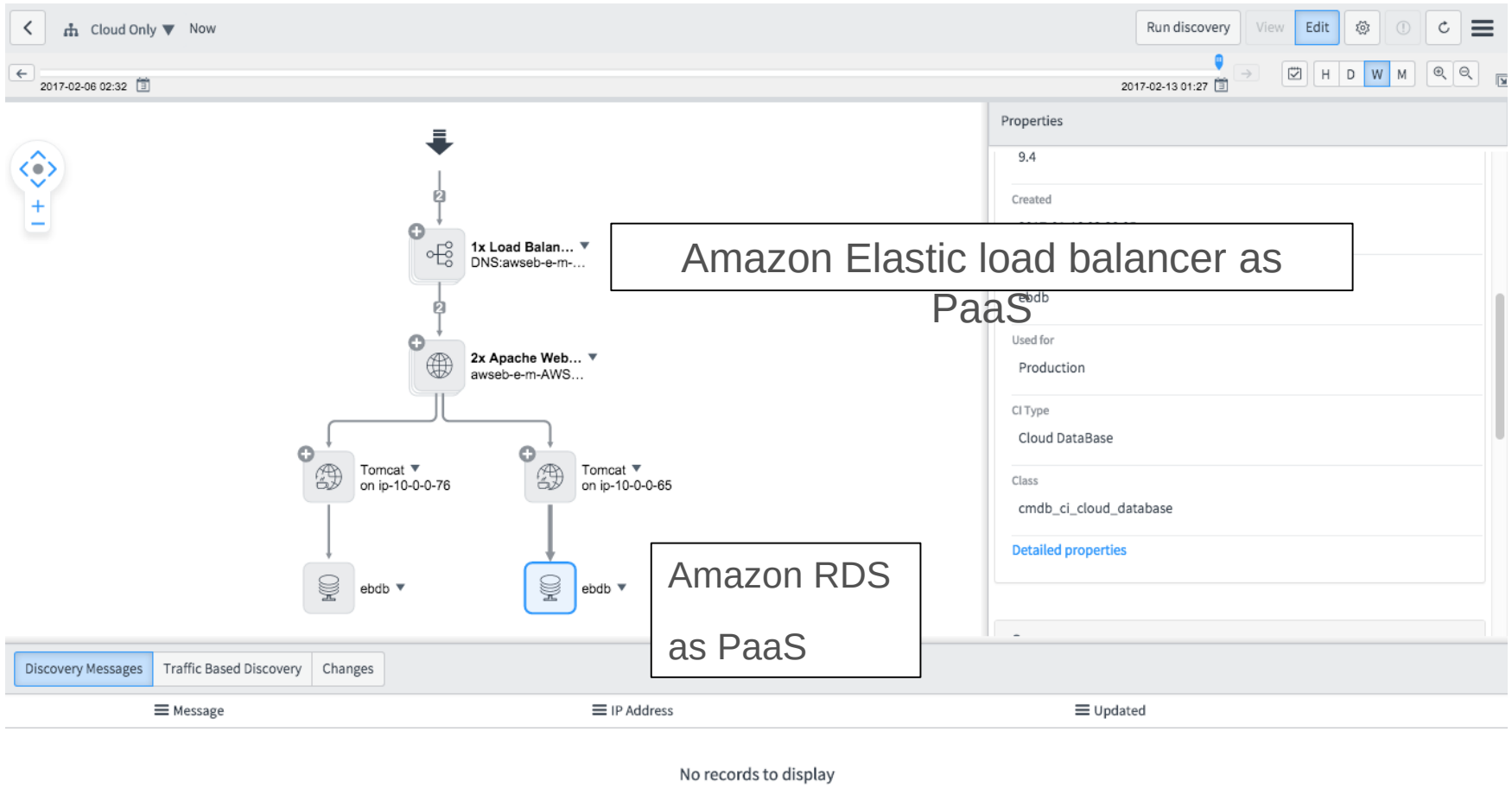
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End-to-end Cloud Mapping

- Top-down and horizontal discovery of Amazon (AWS) and Azure clouds
- New unified cloud data model in the CMDB
- Generic extensibility capabilities to add support for more cloud vendors and cloud objects
- Support for both Infrastructure-as-a-Service & Platform-as-a-Service cloud entities
- Support hybrid services (where some components are on premise and some are in the cloud)
- Cloud support across Discovery, Service Mapping and Event Management

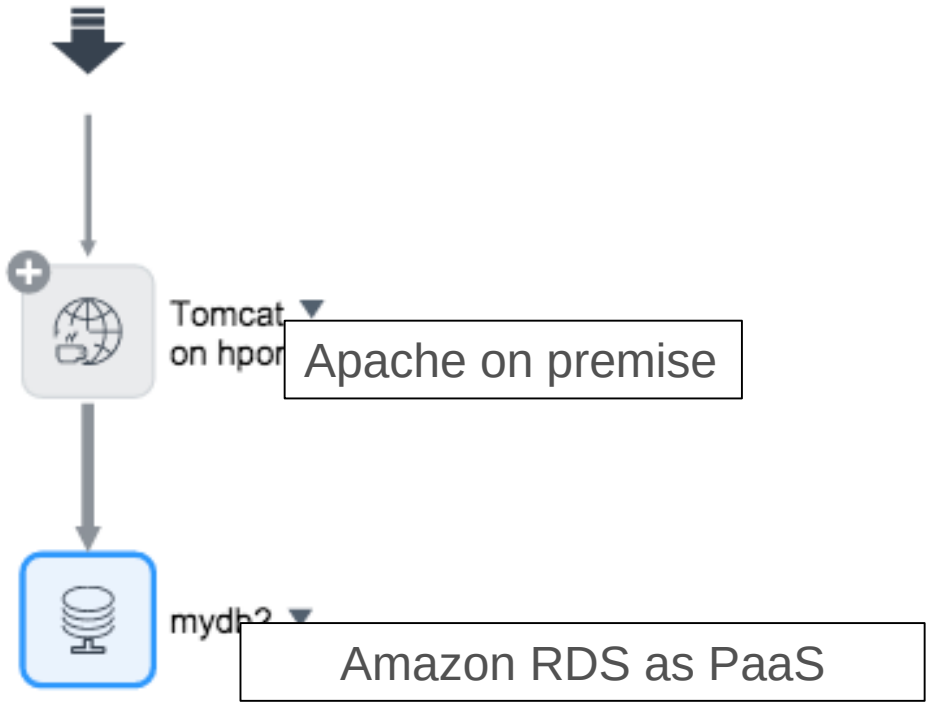
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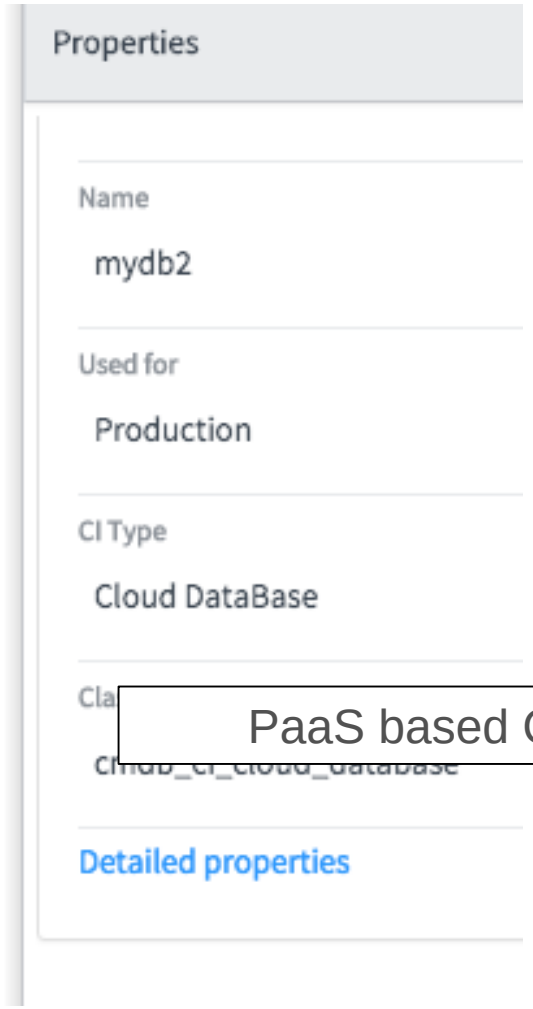
End-to-end Cloud Mapping



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End-to-end Cloud Mapping: Hybrid Services





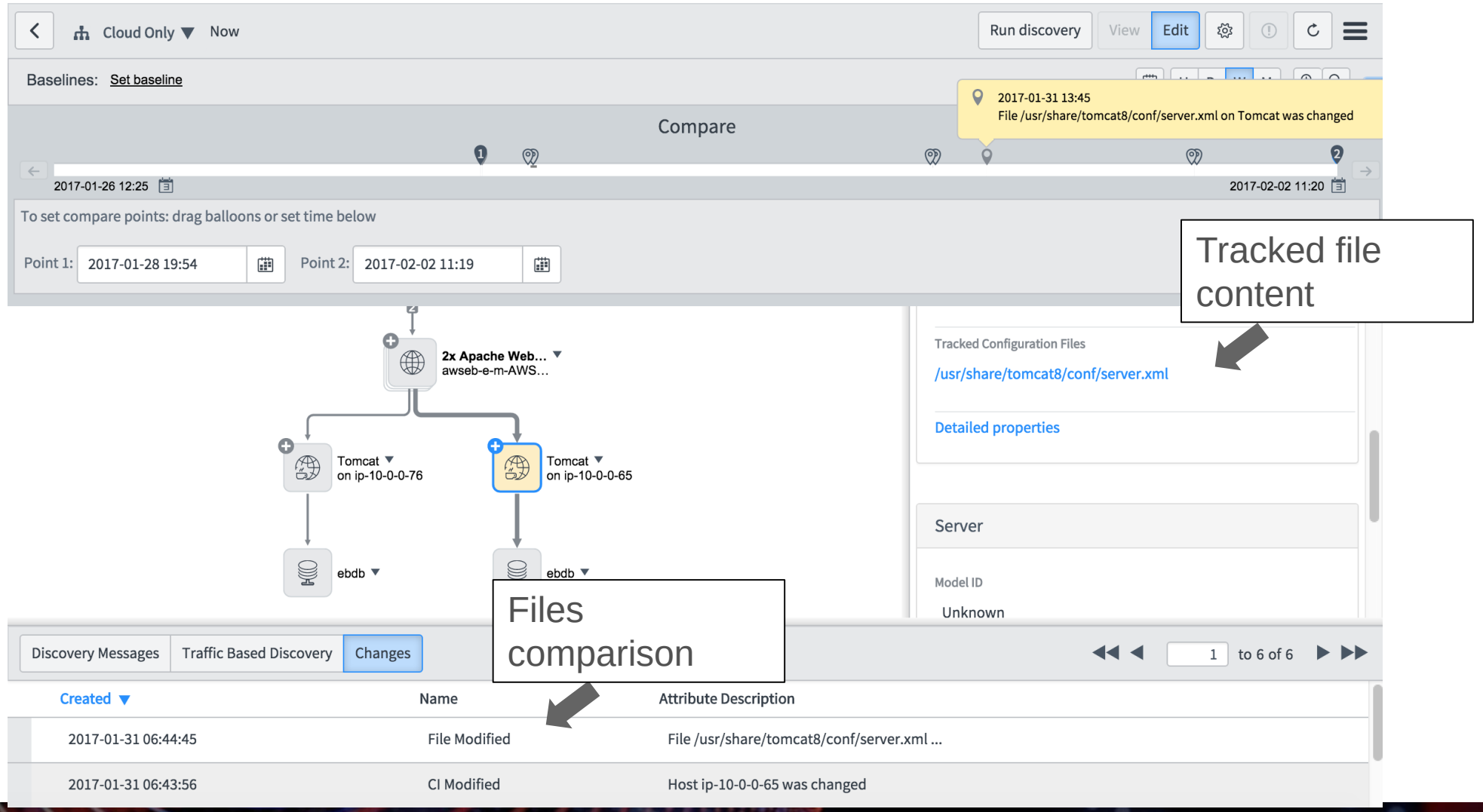
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Configuration File Tracking

- Track configuration files (and other configuration data) for changes as part of top-down and horizontal discovery
- Capture the contents of configuration files
- Show changes in both the service map timeline and the CMDB CI timeline
- Correlate changes against change records in Change Management to differentiate between approved/unapproved change
- Compare 2 versions of a configuration file

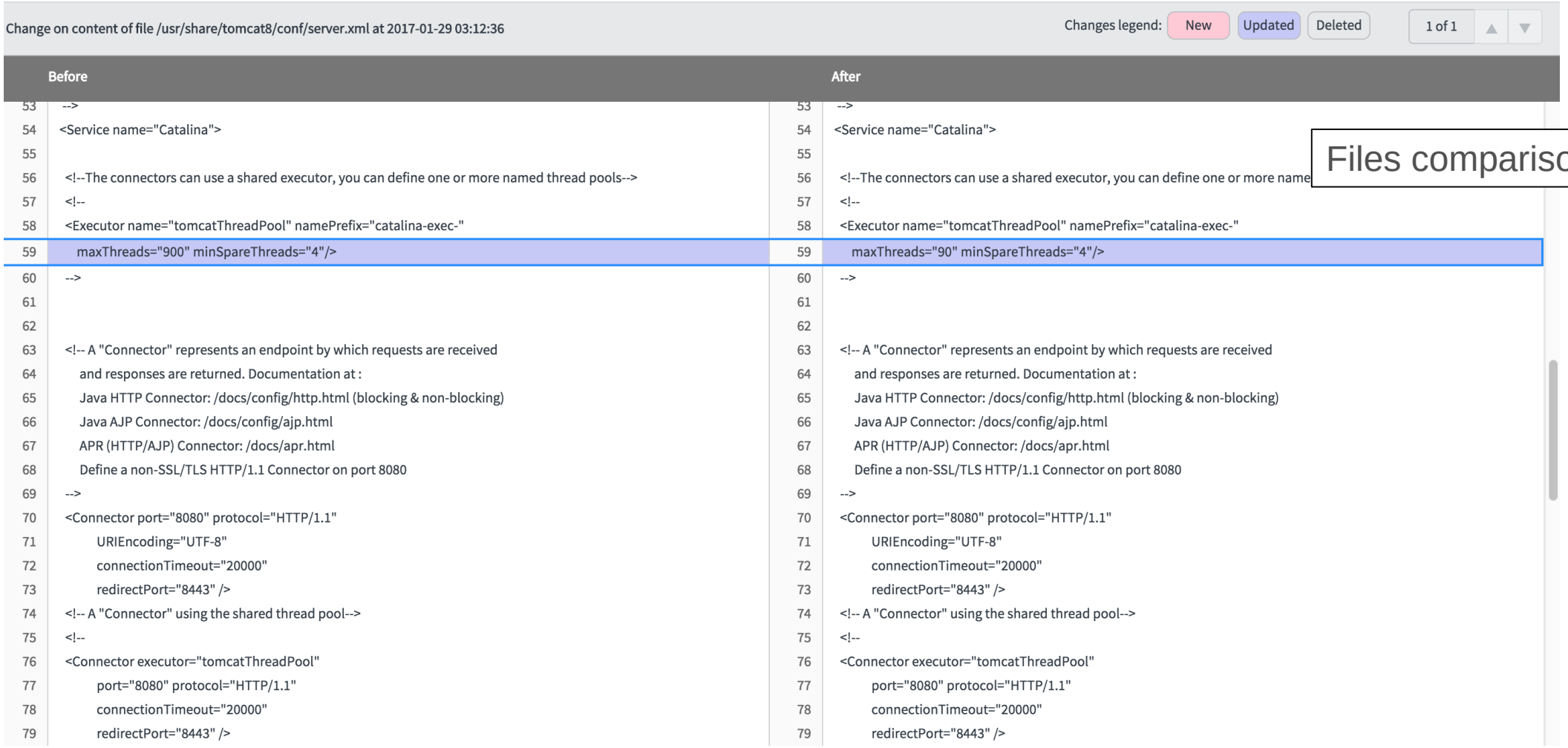
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Configuration File Tracking



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Configuration File Tracking



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Top Takeaways

1

Discovery and Service Mapping work seamlessly to eliminate service outages and support ITSM processes

2

Extensive investment in Jakarta and beyond on automating and streamlining deployments

3

Coupled with Event Management, Discovery and Service Mapping provide a unique value for better event correlation and root cause analysis

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Q & A

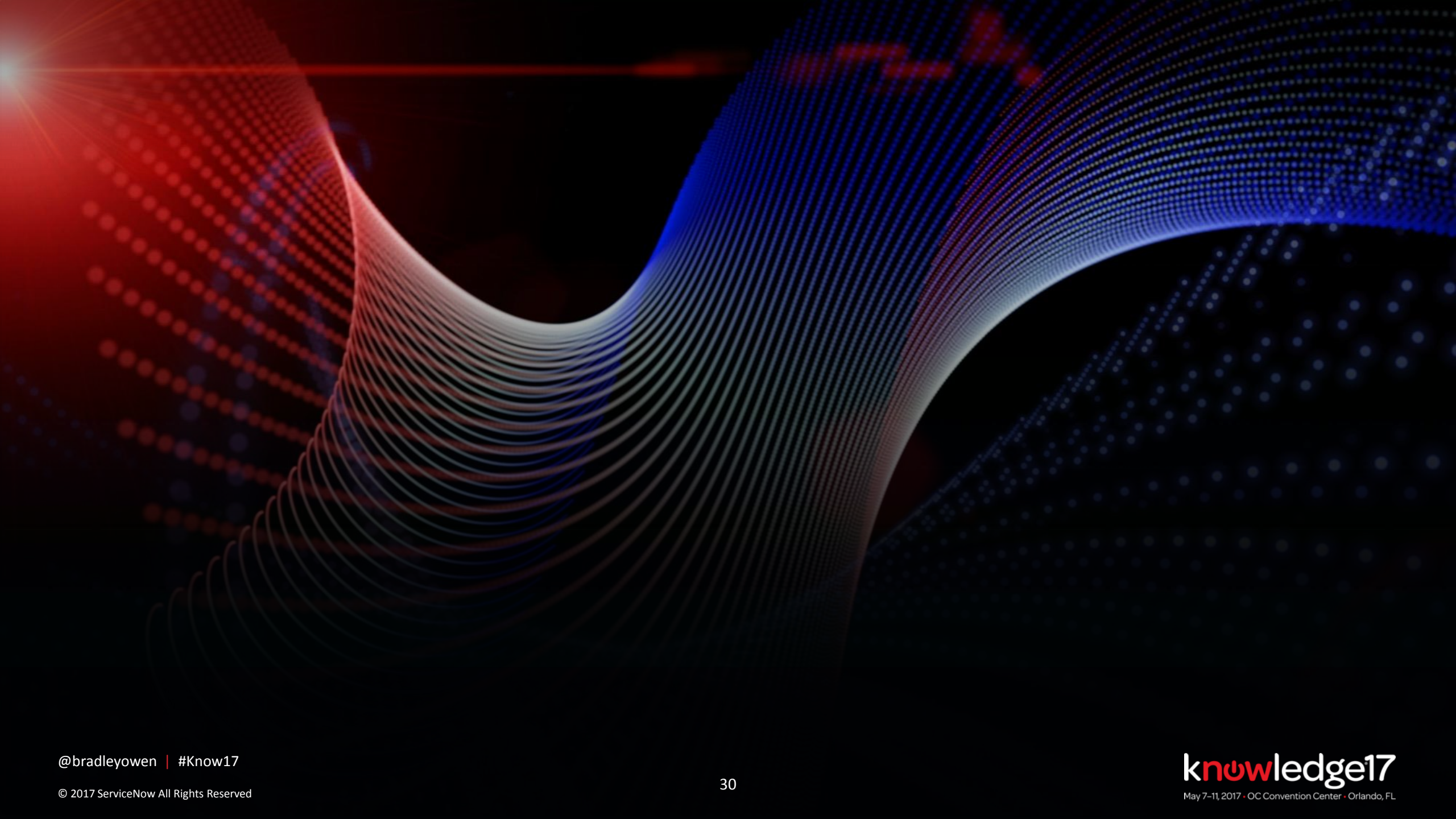
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