# Forward-Looking Statements

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# How To Build and Scale Services and KPIs Using Service Templates in IT Service Intelligence

ITO1165C

**Tony Nesavich**
IT Ops & ITSI SME | Splunk

**Jeff Wiedemann**
IT Ops Strategist & ITSI SME | Splunk

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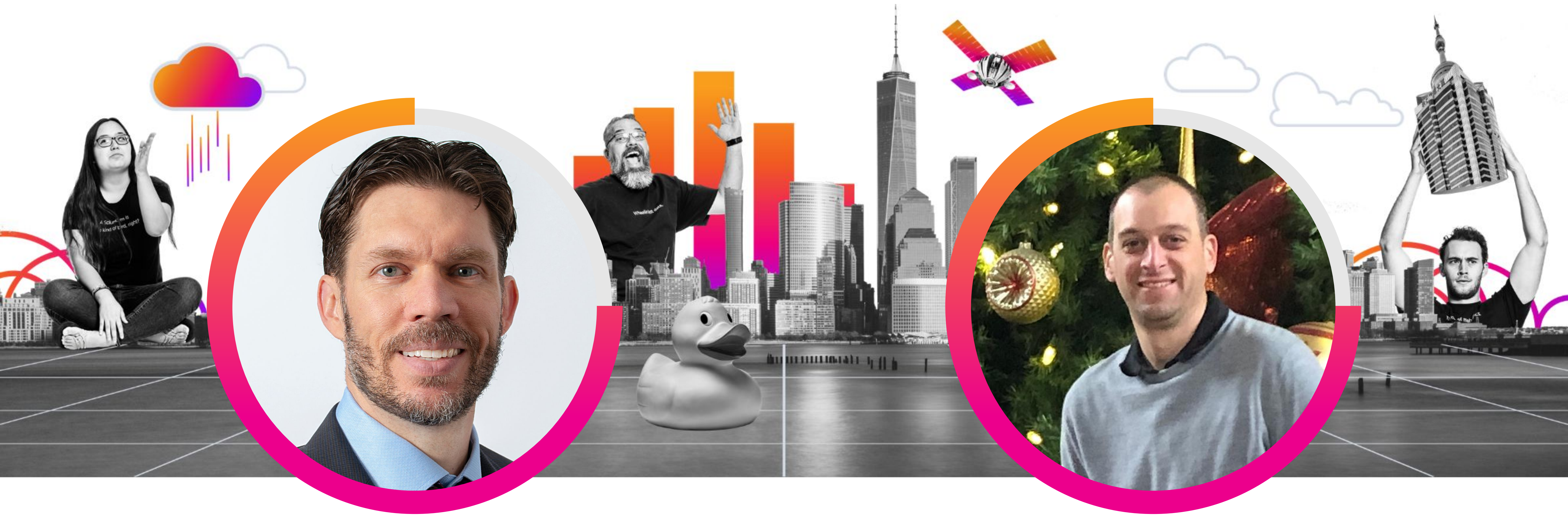

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## Disclaimer… Buckle up and focus!

Example code is available for everything we cover today so focus on concepts vs. notes as we will move fast and will be unpacking some cool stuff together!

## Agenda

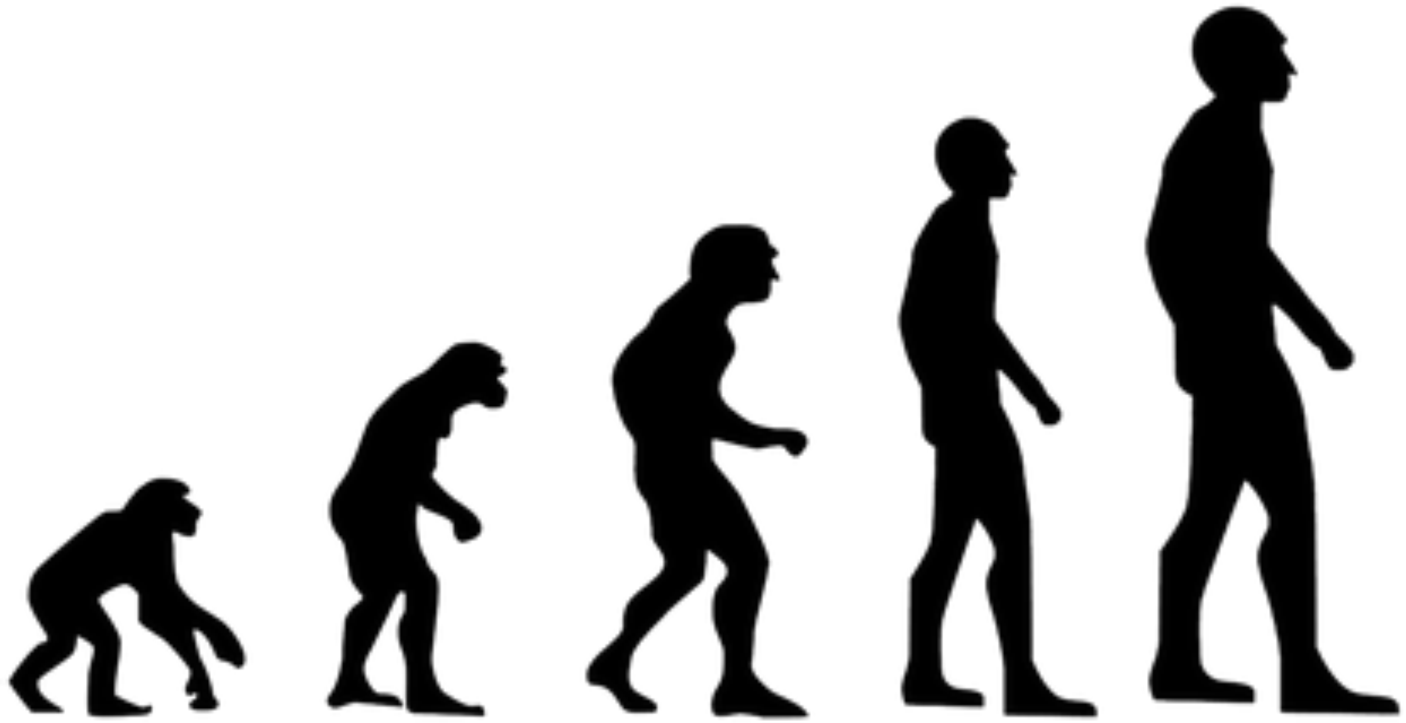
1) Why automate service tree builds?
   Background to example covered in this session

2) Laying the groundwork
   Requirements for this approach

3) Walkthrough

4) Best practices
   Covered throughout & relevant

## Origins of approach / Why



## See it in action!

## Is this right for you?

Are you ready to follow this process?

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# Is this right for you?

Are you ready to follow this process?

- You have a large and uniform service tree where many nodes look about the same
- You are trying to ensure your service tree is "mirrored" in another system (CMDB)
- Your service tree should ideally expand and shrink as things change in the environment
- You can "see" the tree structure within the raw data. Hierarchies, relationships, etc.

# Foundations we build on

**Structure within the data**

Define service trees using data

**Entities**

Critical to how KPI results are filtered and divided within the service tree

**Service Templates**

Support performant, scalable, dynamic management of the service tree

**Automatic Service Creation**

Automatically build service tree and schedule recurring build

## Foundations we build on

**Structure**

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- Anything with reliable definitions/tagging to build off

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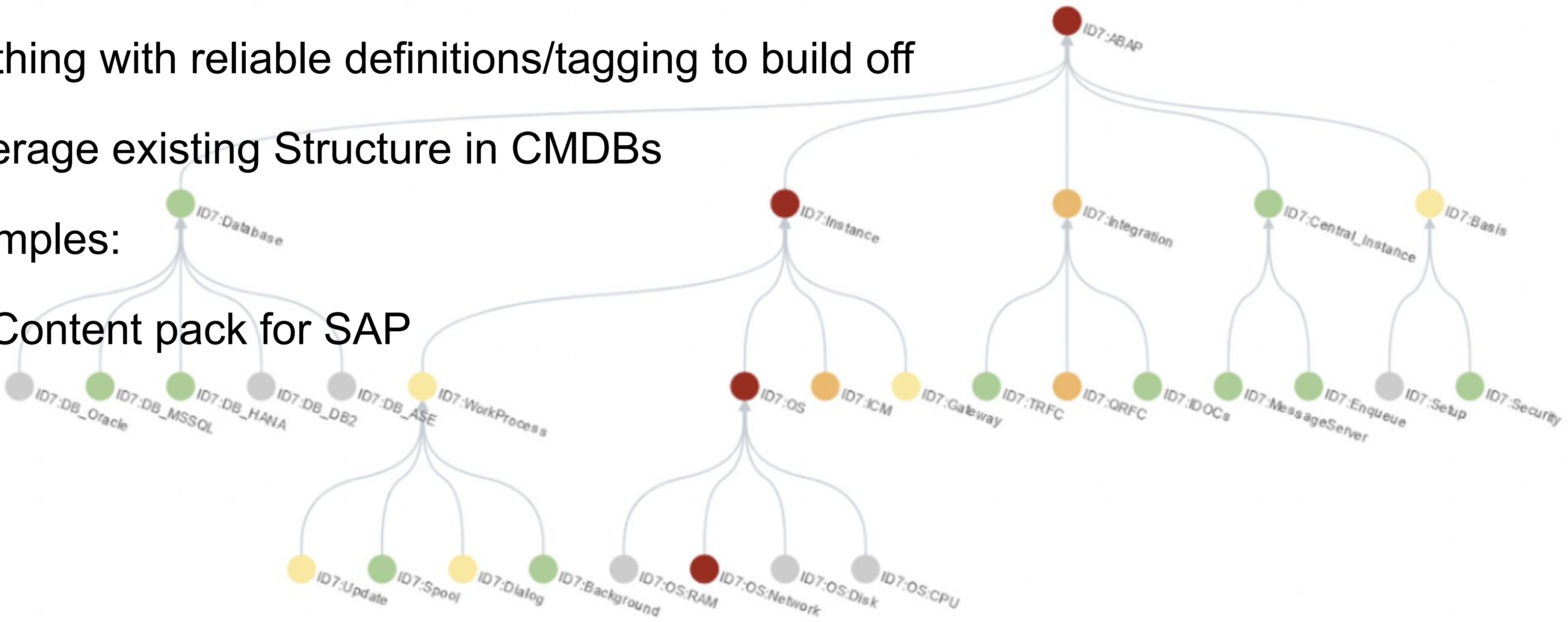
- Anything with reliable definitions/tagging to build off
- Leverage existing Structure in CMDBs
- Examples:
  - Content pack for SAP



# Foundations we build on

**Structure**

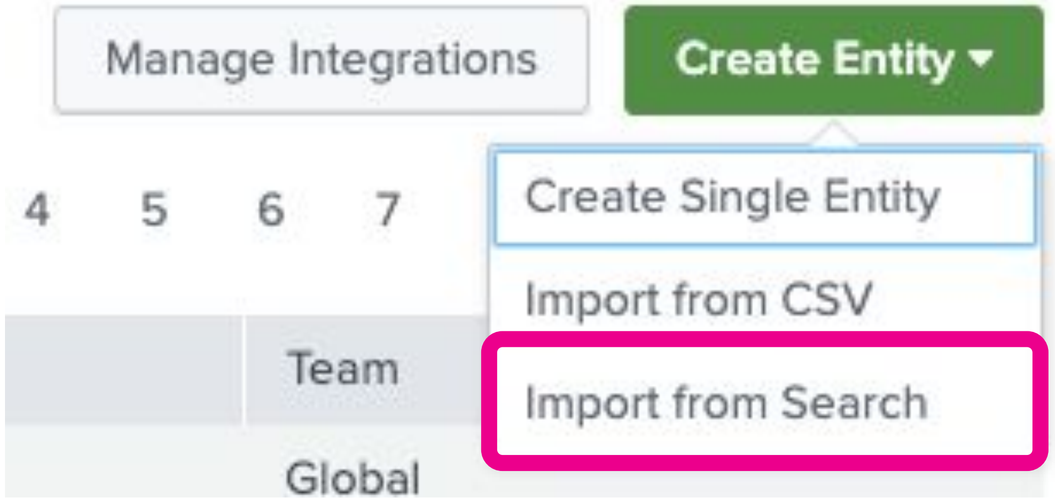
**Entities**

## Entities

# Entities

Best Practice

- Import them from search!



# Entity metadata is critical. Get it right!

**Entity Title** - ***Crucial for duplicate entity detection and merging***. Keep it simple and intuitive. Watch out for duplication. (hostname vs fqdn)

**Entity Alias Fields** - ***Should always match a unique field in the raw data*** used to drive KPI results filtering. ***Required*** for automatic service tree creation. (Examples: host, fqdn, ip_address, instance_id, moid)

**Entity Info Fields** - Drives entity filtering rules in the Service. ***Required*** for automatic service tree creation. (Examples: OSName, ApplicationName, Region, Client)

***Schedule recurring imports***

# Entities

## Search Based Entity Import Example

```
<ENTITY-DATA-SEARCH>

| eval entity_title=<PRIMARY-ALIAS-FIELD>
| dedup entity_title

| eval entity_type="<OPTIONAL-ENTITY-TYPE>"
| eval entity_type_info=entity_type

| table entity_title   <PRIMARY-ALIAS-FIELD> <ALIAS-2> <ALIAS-N>   <INFO-1> <INFO-2> <INFO-N>   entity_type_info entity_type
```

Search raw data where entities can be discovered. Relevant field extractions required.

# Entities

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```

Wisely choose an entity title. Deduplicate results by entity_title for most recent entity information.

# Entities

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```

Specify the entity type. Optional, but recommended. Facilitates filtering and navigation in ITSI.

# Entities

## Search Based Entity Import Example

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```

Tidy up the final results for readability and easier importing

## Foundations we build on

Structure

Entities

Service Templates & Base Searches

## Service Templates

Best practice for migrating a manually built service to a service template

## Build Service Templates

Best practice for migrating a manually built service to a service template

Build manual services first, and model Service Templates from them

- Simplifies the build and troubleshooting process
- Allows for iterative QA

## Build Service Templates

Best practice for migrating a manually built service to a service template

Build manual services first, and model Service Templates from them

Ensure entity filtering rules on the service are dynamic

- Service must have entities defined
- Entity filtering must use entity info fields (not entity title or alias fields unless wildcarded)

# Build Service Templates

Best practice for migrating a manually built service to a service template

Build manual services first, and model Service Templates from them

Ensure entity filtering rules on the service are dynamic

Must use "filter to entities in service" configuration field

- Filters result set to just entities matching the entity alias in the raw data
- Allows for base search to function without specifying entities
- See Docs for more information

# Build Service Templates

Best practice for migrating a manually built service to a service template

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Must use “filter to entities in service” configuration field

Refactor ad-hoc KPIs into KPI base searches

- To optimize search performance - (Think Big and Small)

## Build Service Templates

Best practice for migrating a manually built service to a service template

Build manual services first, and model Service Templates from them

Ensure entity filtering rules on the service are dynamic

Must use “filter to entities in service” configuration field

Refactor ad-hoc KPIs into KPI base searches

**Test and validate the Service and KPIs look correct in the Service Analyzer**

## Yay! Now create service template from service!

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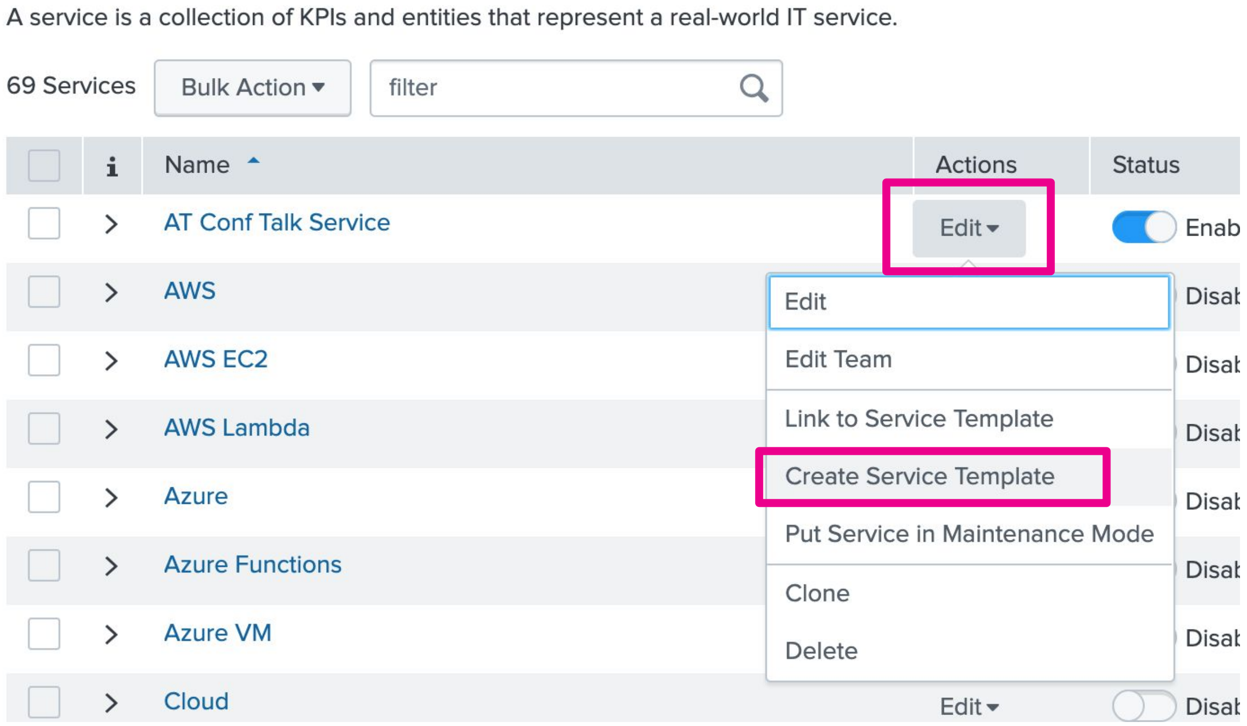
# Create Template from Service

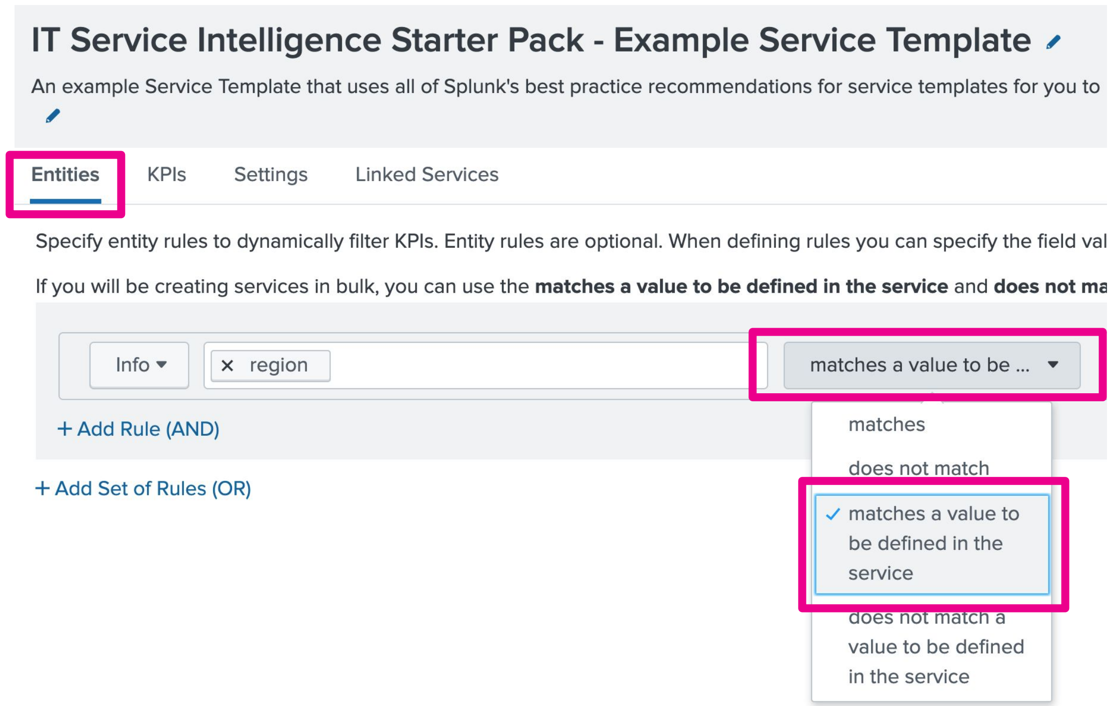
Best practice for migrating a manually built service to a service template



A service is a collection of KPIs and entities that represent a real-world IT service.

69 Services  Bulk Action ▾  filter

| | i | Name ▴ | Actions | Status |
|---|---|---|---|---|
| ☐ | > | AT Conf Talk Service | Edit ▾ | Enab |
| ☐ | > | AWS | | Disak |
| ☐ | > | AWS EC2 | | Disak |
| ☐ | > | AWS Lambda | | Disak |
| ☐ | > | Azure | | Disak |
| ☐ | > | Azure Functions | | Disak |
| ☐ | > | Azure VM | | Disak |
| ☐ | > | Cloud | Edit ▾ | Disak |



IT Service Intelligence Starter Pack - Example Service Template

An example Service Template that uses all of Splunk's best practice recommendations for service templates for you to

Specify entity rules to dynamically filter KPIs. Entity rules are optional. When defining rules you can specify the field val

If you will be creating services in bulk, you can use the **matches a value to be defined in the service** and **does not ma**

Info ▾
× region
matches a value to be ... ▾
+ Add Rule (AND)
+ Add Set of Rules (OR)
matches
does not match
✓ matches a value to be defined in the service
does not match a value to be defined in the service

# Foundations we build on

Structure

Entities

Service Templates & Base Searches

Automatic Service Tree Build

# Automatic Service Tree Build

Search Based Entity Import Example

```
| `itsi_starter_pack_get_example_entity_data`

| eval subtree_namespace="foo:"
| eval is_raw=1
```

Bring in the data (will depend on use case)

# Automatic Service Tree Build

Search Based Entity Import Example

```
| eval comment="Build the top level service first.
       service_name should be populated with the name you want to give the top level of the tree.
       dependent_service_name should be populated with the second tier service names"
| appendpipe
   [ stats values(subtree_namespace) as subtree_namespace count by region
   | eval service_name = "Starter Pack Example Tree"
   | eval dependent_service_name = subtree_namespace.region
   | eval template=""
   | eval entity_info_INFO-FIELD1=null(), entity_info_INFO-FIELD2=null()]
```

Define service_name, dependent services, service templates, & entity_info

# Automatic Service Tree Build

Search Based Entity Import Example

```
 | eval comment="Build the second tier services next.
        service_name should match the value chosen for dependent_service_name above.
        dependent_service_name should be populated with the third tier service names"
 | appendpipe
   [ stats values(subtree_namespace) as subtree_namespace count by region
   | eval service_name = subtree_namespace.region
   | eval dependent_service_name = ""
   | eval template="IT Service Intelligence Starter Pack - Example Service Template"
   | eval entity_info_region=region, entity_info_INFO-FIELD2=null()]
```

Define service_name, dependent services, service templates, & entity_info

# Automatic Service Tree Build

Search Based Entity Import Example

```
| search (NOT is_raw=1)
| rename service_name as "Service Title", dependent_service_name as "Dependent Services", template as "Service Template Link"
| table "Service Title" "Dependent Services" "Service Template Link" entity_info_*
```

Tidy up the final results for readability and easier importing

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## Breaking it down

Simple to follow steps to convert a manual tree into an automatic tree

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6. Build the service tree SPL that programmatically defines the tree

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4. Convert KPIs into base searches which use entity filtering rules
5. Convert services into service templates and update entity filtering rules to be defined in service template
6. Build the service tree SPL that programmatically defines the tree
7. Create the services automatically using create service from search. Schedule to run as needed

# Call to action

Time Savings & next steps, how to do this on your own

**More examples on GitHub!**

# Call to action

Time Savings & next steps, how to do this on your own

**github.com/splunk/itsi-cp-starter-pack**

**More examples on GitHub!**

# Thank You

Please provide feedback via the

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