Why and How NHS Digital, the UK's Health and Social Care Information Centre, Migrated to the Cloud to Reach 7.5TB/Day

Will Searle

Technology Manager | NHS Digital

Forward-Looking Statements

During the course of this presentation, we may make forward-looking statements regarding future events or plans of the company. We caution you that such statements reflect our current expectations and estimates based on factors currently known to us and that actual events or results may differ materially. The forward-looking statements made in the this presentation are being made as of the time and date of its live presentation. If reviewed after its live presentation, it may not contain current or accurate information. We do not assume any obligation to update any forward-looking statements made herein.

In addition, any information about our roadmap outlines our general product direction and is subject to change at any time without notice. It is for informational purposes only, and shall not be incorporated into any contract or other commitment. Splunk undertakes no obligation either to develop the features or functionalities described or to include any such feature or functionality in a future release.

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Agenda

The Journey

1) Where it All Started

National Monitoring Service

2) Good News Travels Fast

Further adoption throughout our national services

3) Big-Bang Rapid Adoption

Removing the bottleneck

4) Regaining Control

For the greater good

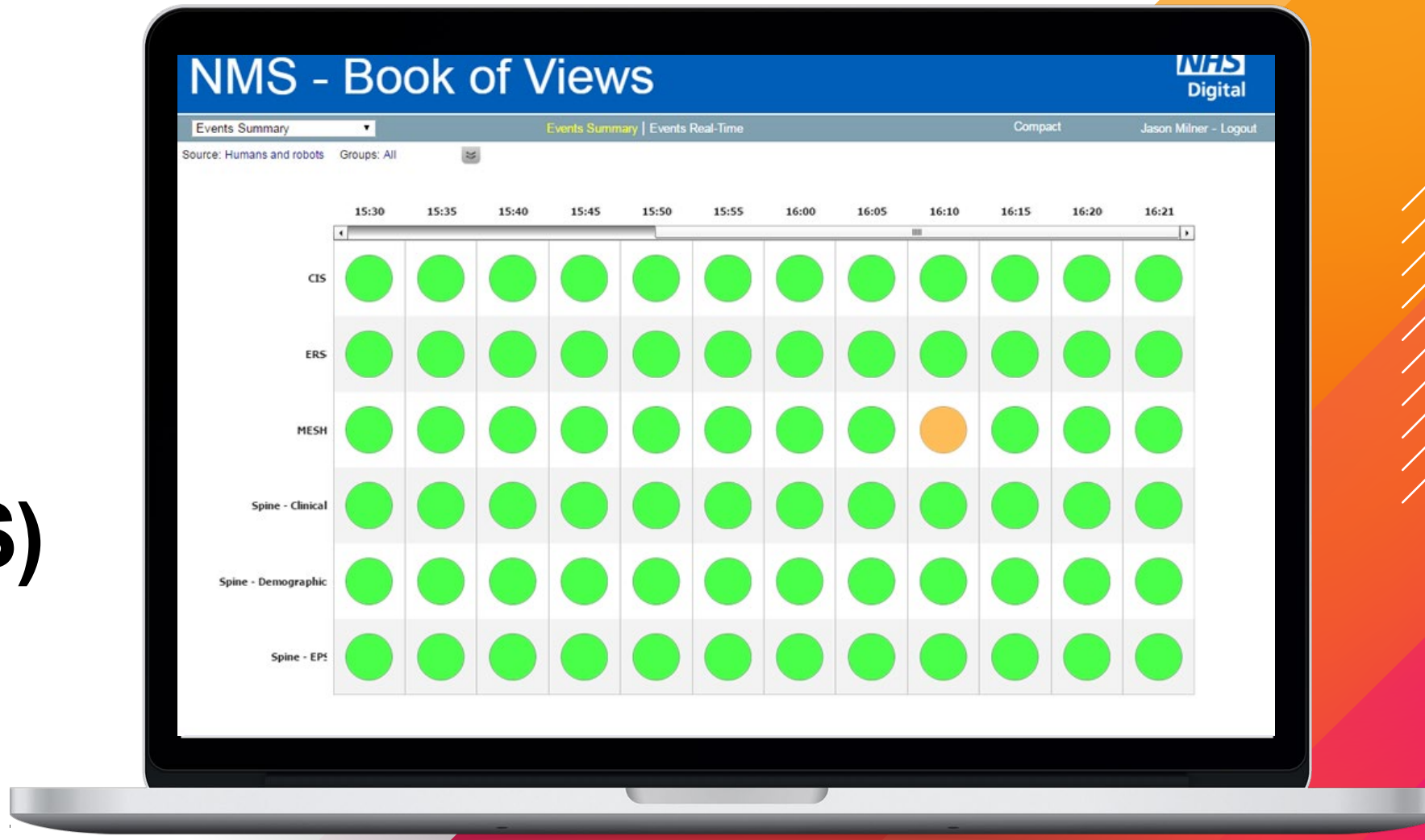
5) Next Steps

So, what now?

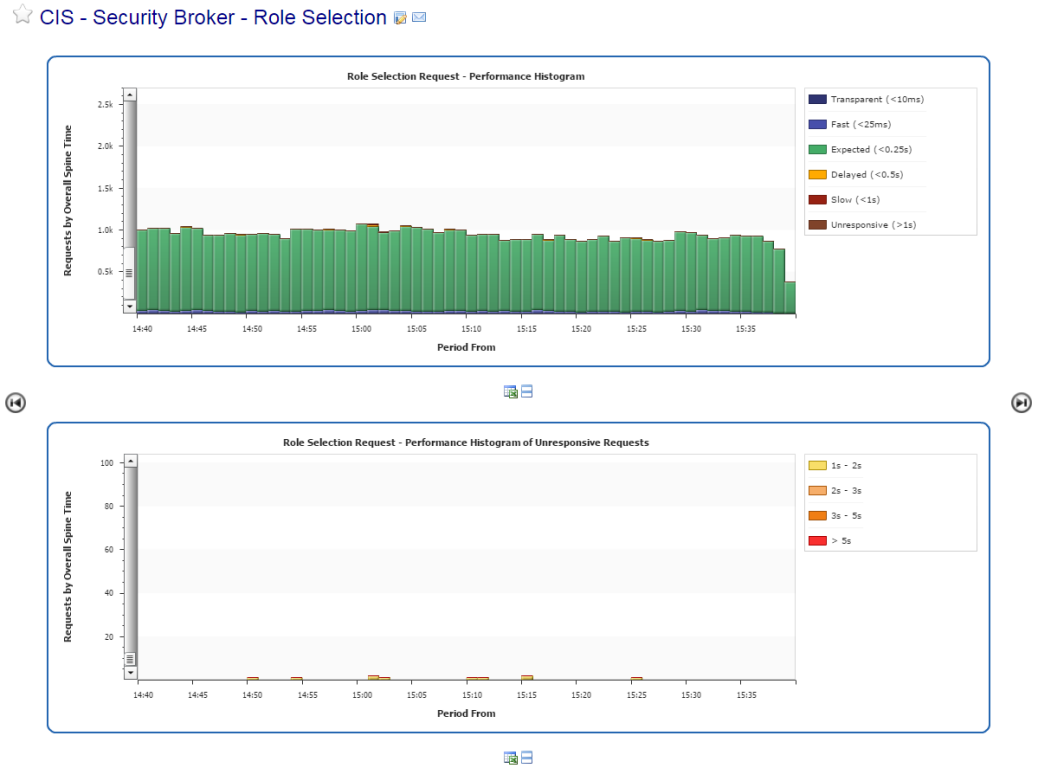
Where it All Started

National Monitoring Service

National Monitoring Service (NMS)



National Monitoring Service



Pros

- Scaled to 100s of users
- Cheap retention (cached results)

Cons

- Lacked newer features
- Management overhead

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Good News Travels Fast

Further adoption throughout our national services

How Splunk Spread – Spine 2

Underpinning the monitoring of national services

Launched in 2014

Provides messaging platform between healthcare systems as well as a variety of component services

Became an exemplar service in relation to good monitoring and logging at NHS Digital

Top tip: Establish best practices – For custom logs always include the log level, log reference and a correlation/unique identifier.

How Splunk Spread – Care Identity Service

Underpinning the monitoring of national services

Provides clinical staff secure access to NHS systems

Over 1,000,000 logins per day

Utilises a multisite cluster to record details of every login to support:

- Real-time service monitoring
- Incident Investigation
- Adoption of new features (Self-Service Renewals, Identity Agent upgrades)

Top tip: Plan ahead and reduce tech-debt by doing it right early on. Search for ”Splunk Validated Architectures”.

Big-Bang Rapid Adoptions

Removing the bottleneck

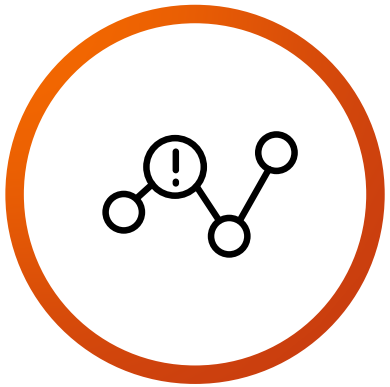
How the Use of Splunk Spread

More services, different use-cases, new users

Security

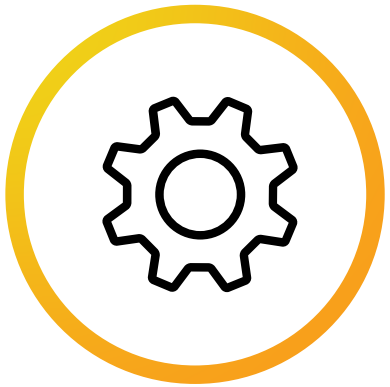
Scale-out of our Security Operations Centre (SOC)

DevOps



Increased utilization of Splunk in DevOps environments

Common Skills



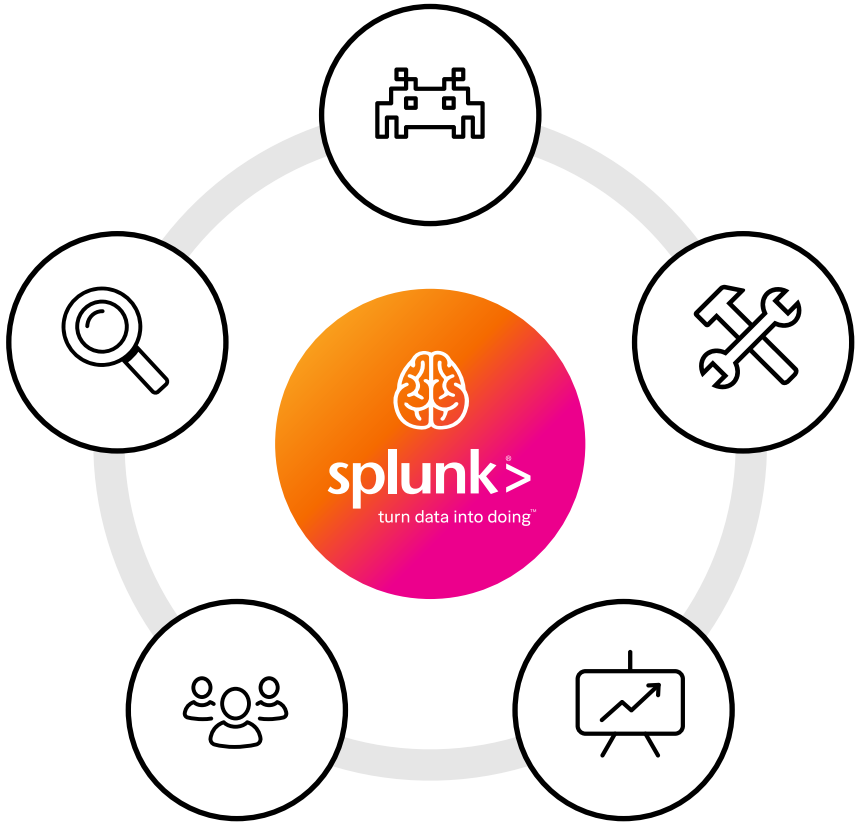
Staff from areas already using Splunk moving around

Programmes

New programmes followed proven patterns

Single Toolset for Multiple Purposes

Provides a single place to look, regardless of the task:



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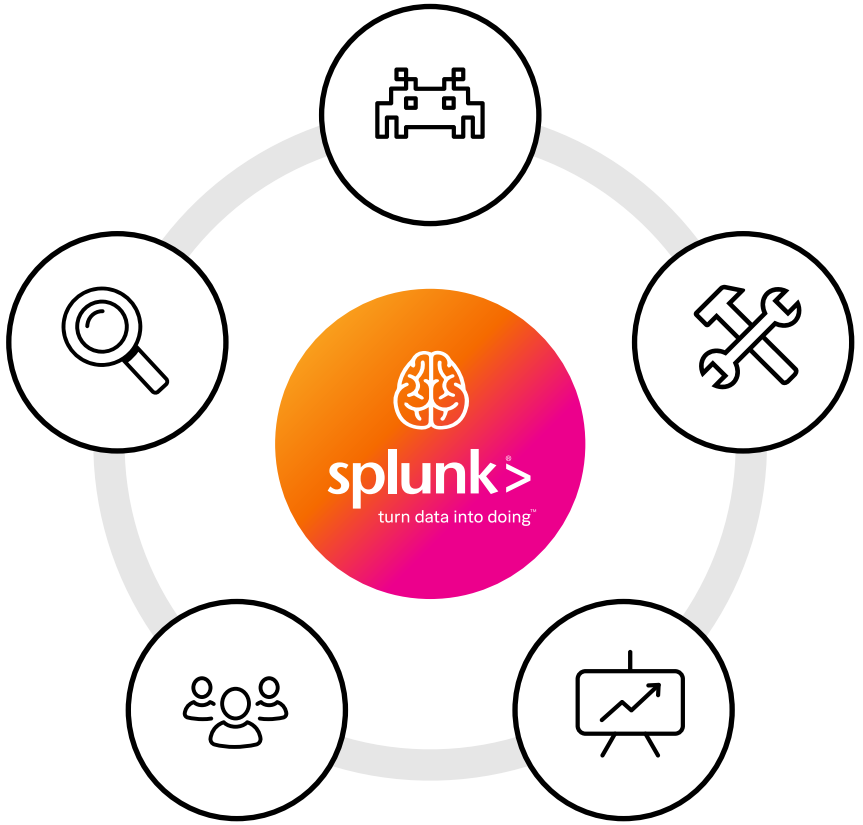
- Operational Support



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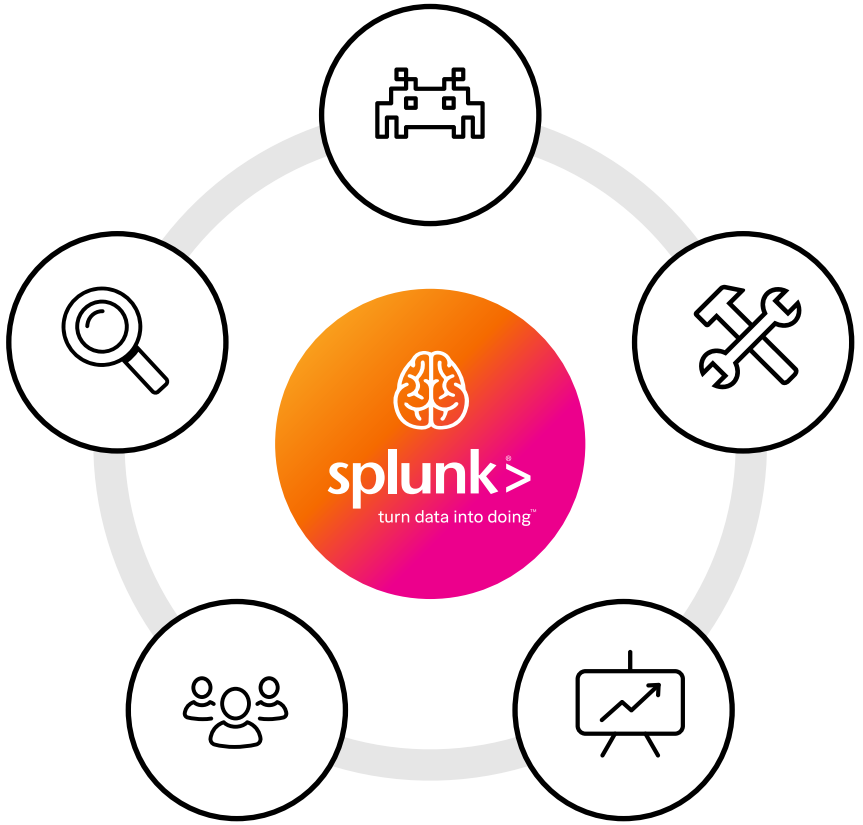

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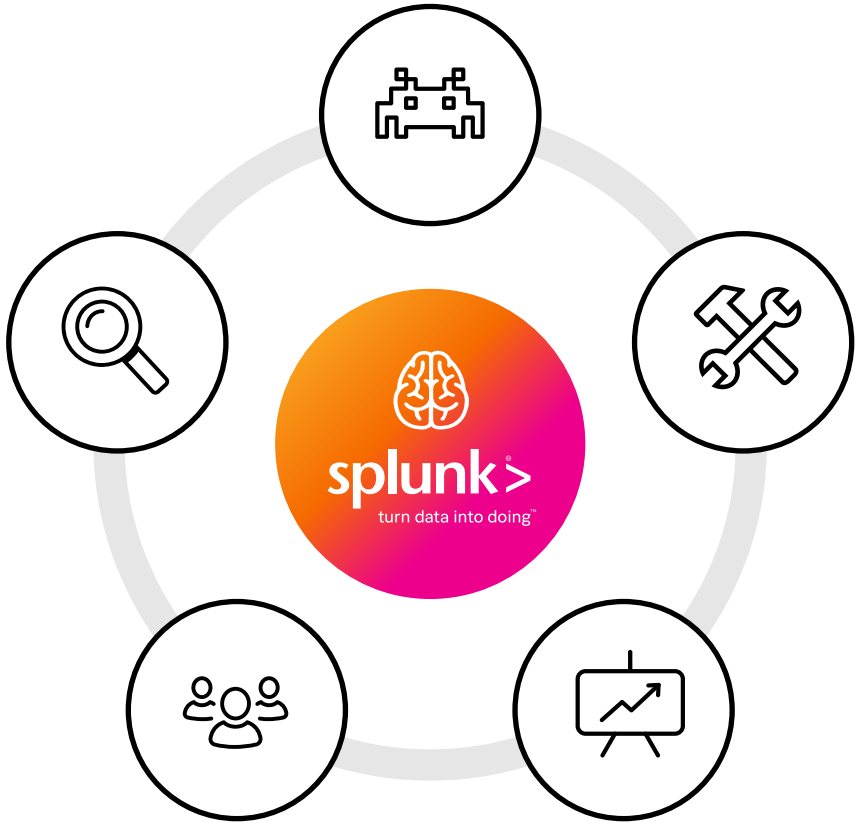
- Incident Investigation
- Development Lifecycle



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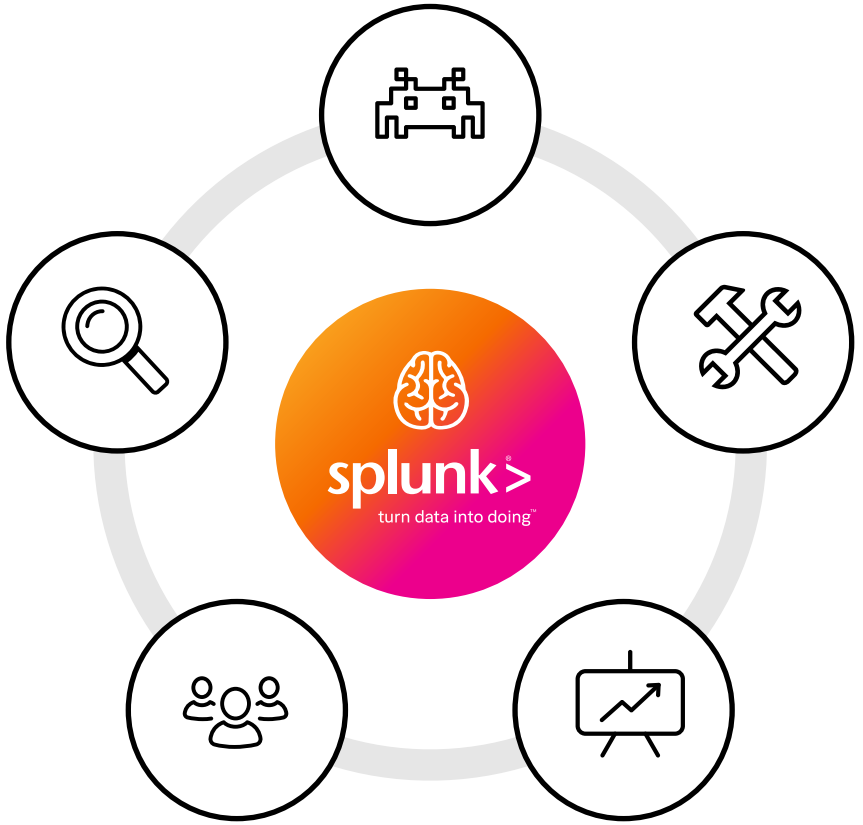
- Security Monitoring



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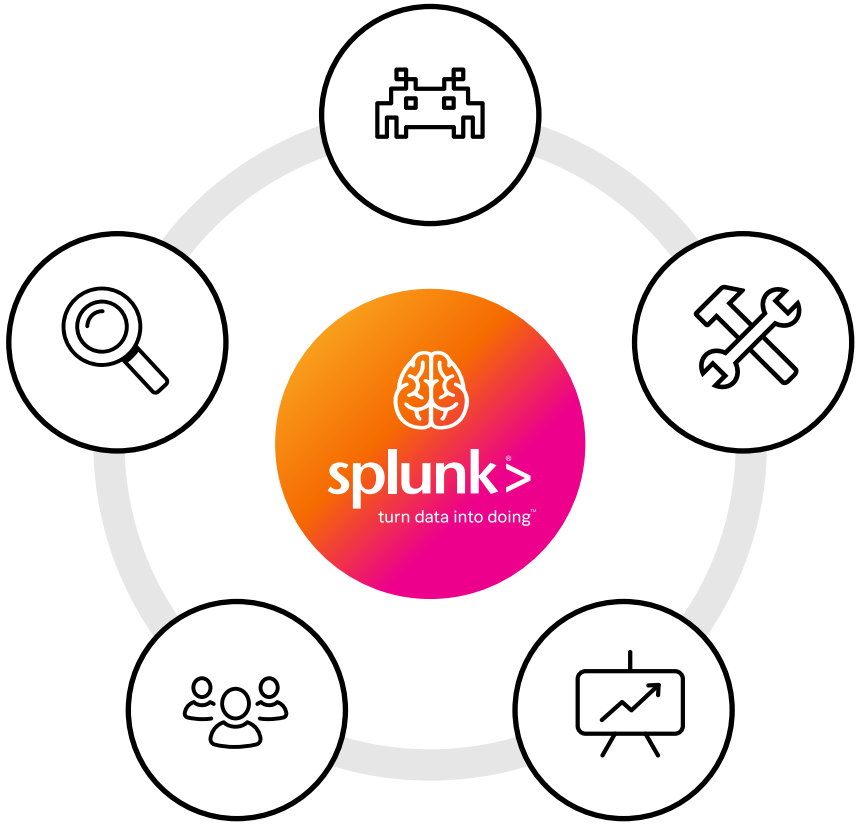
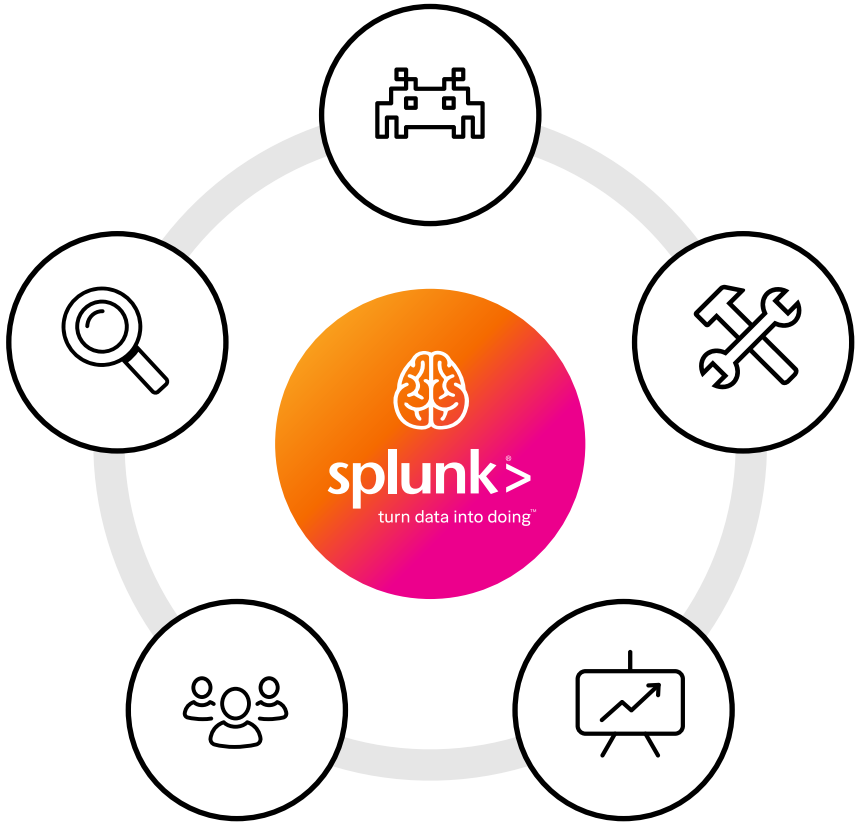
- Service Management



Single Toolset for Multiple Purposes

Provides a single place to look, regardless of the task:

- Operational Support
- Incident Investigation
- Development Lifecycle
- Security Monitoring
- Service Management
- Executive summary



The Pitfalls of Rapid Growth

No ability to search across instances

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Lots of dark data

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Security and Patching

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Lack of best practice

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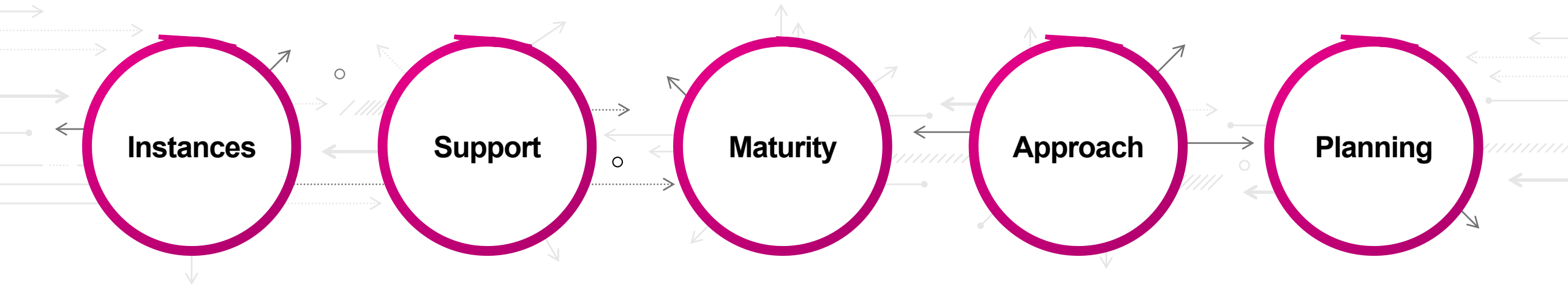
Governance

We Couldn’t See the Forest, or the Trees



75+ Individual deployments

Unsupported versions (<7.x)

Wide range of maturity

Inconsistent approach

Difficulty of forecasting future requirements

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Regaining Control

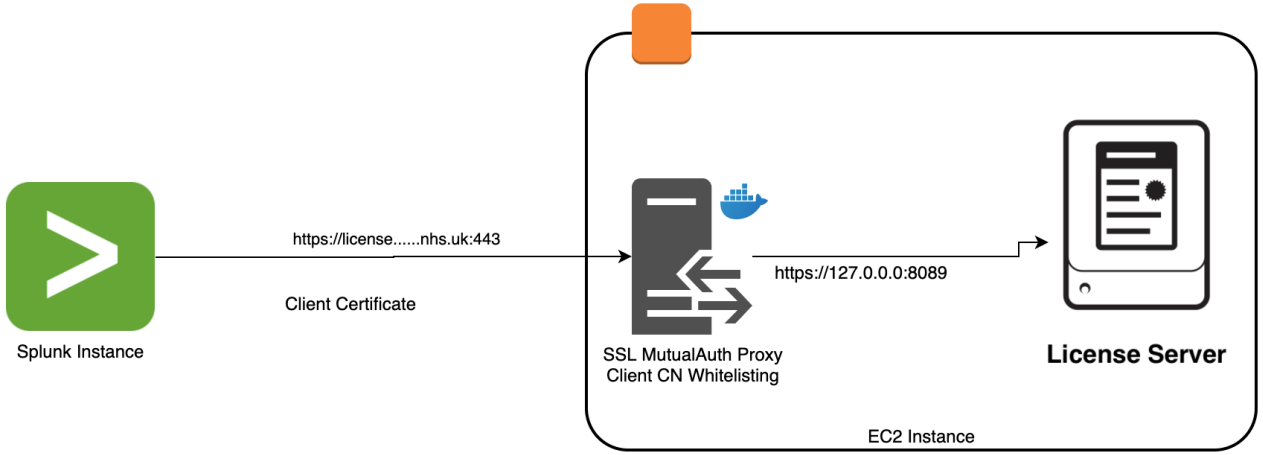
For the greater good

Step 1 – No More License Keys

Cloud-first

Low maintenance

Simple reporting



Reaching for the Sky (Cloud)

A fresh start

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Create a plan

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Consolidate efforts

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Training – All on the same page

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Admin on Demand

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Maximising the Splunk Investment

Reaching for the Sky (Cloud)

A fresh start

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Admin on Demand

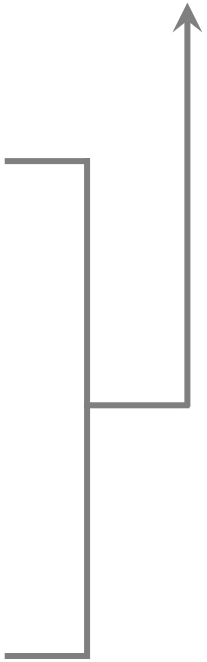
Maximising the Splunk Investment

Reduces Total Cost of Ownership (TCO)

On-Premise vs. Splunk Cloud

	Responsibility	Splunk Ent Deployed On-Premises	Splunk Cloud
Admin Tasks: One-time Setup	Purchase/rent HW	Customer	Splunk
	Rack and stack, cable, network all HW	Customer	Splunk
	Install Splunk	Customer	Splunk
	Install OS	Customer	Splunk
	Configure Splunk (create users, load apps, configure)	Customer	Splunk
	Configure indexes	Customer	Splunk
	Setup HA/clustering	Customer	Splunk
	Setup disaster and recovery	Customer	Splunk
	Configure forwarders	Customer	Joint
	Onboard data	Customer	Joint
	Integrate with LDAP/AD	Customer	Joint
Admin Tasks: Ongoing	Scale up HW	Customer	Splunk
	Install Splunk patches / upgrades	Customer	Splunk
	Install OS patches / upgrades	Customer	Splunk
	Monitor deployment / health checks	Customer	Splunk
	Manage forwarders	Customer	Customer
	Create users / roles	Customer	Customer
	Manage indexes	Customer	Customer
	Onboard additional data	Customer	Customer
	Load search head only apps	Customer	Splunk
	Load distributed apps	Customer	Splunk
	Load premium apps	Customer	Splunk
	Export data	Customer	Splunk
User Tasks	Search, alerts, reports, dashboards	Customer	Customer

Managing a Splunk deployment involves 12 on-going admin tasks, 8 of which are conducted by Splunk for a Cloud based deployment



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Why Splunk Cloud?

What is Cost?

"The effort, loss, or sacrifice necessary to achieve or obtain something" (Oxford Living Dictionary, 2019)

Cost isn't just monetary:

1. Risk
2. Opportunity
3. Innovation
4. Environmental
5. Quality

How Things Look Now

300+

Indexes

500+

Active Users

700+

Sourcetypes

100k+

Sources

Next Steps

So, what now?

12 Month Plan

Reuse, Reuse, Reuse

Consolidation

Improve Maturity

Recap

1. Top Tips
   - For custom logs always include the log level, log reference and a unique identifier
   - Plan ahead and reduce tech-debt by doing it right early on
2. Avoid creating data silos
3. Sweat the asset
4. Create a roadmap (and follow it!)

Thank You

Please provide feedback via the

SESSION SURVEY