



Introducing Splunk Validated Architectures (SVA)

Optimizing Your Path To Success With Splunk

Sean Delaney | Principal Architect

Stefan Sievert | Staff Architect

September 2017 | Washington, DC

Forward-Looking Statements

During the course of this presentation, we may make forward-looking statements regarding future events or the expected performance 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 could differ materially. For important factors that may cause actual results to differ from those contained in our forward-looking statements, please review our filings with the SEC.

The forward-looking statements made in this presentation are being made as of the time and date of its live presentation. If reviewed after its live presentation, this presentation may not contain current or accurate information. We do not assume any obligation to update any forward looking statements we may make. 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 functionality described or to include any such feature or functionality in a future release.

Splunk, Splunk>, Listen to Your Data, The Engine for Machine Data, Splunk Cloud, Splunk Light and SPL are trademarks and registered trademarks of Splunk Inc. in the United States and other countries. All other brand names, product names, or trademarks belong to their respective owners. © 2017 Splunk Inc. All rights reserved.

What Is This About?

SVA Definition

Proven **reference architectures** for stable, efficient and repeatable Splunk deployments

Blueprints, Characteristics And Architecture Best Practices

Goal & Scope

Why SVAs?

Benefits

Why you want to apply SVAs

- ▶ Empower customers to design and deploy Splunk more confidently
- ▶ Prevent snowflakes that are not scalable, reliable and/or maintainable
- ▶ Increase Customer Success
- ▶ Accelerate your time to value and agility when growing/scaling
- ▶ Minimize TCO for Splunk



```
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-03"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=K0-CU-01"
317.27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D55L7FF6ADFF0 HTTP 1.1"
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-03"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=K0-CU-01"
317.27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D55L7FF6ADFF0 HTTP 1.1"
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-03"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=K0-CU-01"
317.27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D55L7FF6ADFF0 HTTP 1.1"
```

In Scope For Svas

Components Of A SVA

► Diagrams

Visual representation of the reference architecture

► Characteristics

Written description of fitness-for purpose and limitations

► Tier-Specific Considerations and Best Practices

What to look out for when building out a Splunk deployment



What Svas Do Not Address

Out Of Scope Items

- ▶ **Deployment technologies**, like operating systems & server hardware, since they are considered implementation choices
- ▶ **Deployment sizing** involves understanding data ingest and search volumes as well as search use cases and generally does not affect the deployment architecture

```
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&SESSIONID=5D1SLAFF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-03" "Mozilla/5.0 (Windows NT 5.1; SV1; .NET CLR 1.1.4322)" 468 125.17 14.189
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&SESSIONID=5D55L7FF6ADFF0 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&SESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/category.screen?category_id=FLOWERS&SESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/category.screen?category_id=FLOWERS&SESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-1&product_id=AV-CB-01&SESSIONID=5D18SL9FF2ADFF9 HTTP 1.1" 200 2423 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&SESSIONID=5D18SL9FF2ADFF9 HTTP 1.1" 200 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&SESSIONID=5D18SL9FF2ADFF9 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/category.screen?category_id=F1-SW-03" "Mozilla/5.0 (Windows NT 5.1; SV1; .NET CLR 1.1.4322)" 468 125.17 14.189
```




Who Is This For?

Intended Audience

Relevant Personas

Who Should Care

- ▶ **Enterprise Architects**

Responsible for architecting Splunk deployments to meet enterprise needs

- ▶ **Consultants**

Splunk consultants that provide Splunk architecture, design and implementation services

- ▶ **Splunk Administrators**

Staff that is responsible for managing Splunk lifecycle

- ▶ **Managed Service Providers**

Entities that deploy and run Splunk as a service for customers

[Log snippet showing various HTTP requests and responses, including headers like 'HTTP 1.1' and '200 OK', and URLs like 'http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-03']

Design Focus

Foundational Pillars

Foundational Pillars

Availability

Performance

Scalability

Security

Manageability

130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L9FF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-03" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/44.0.2403.157 Safari/537.36" [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D55L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=KQ-CW-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/44.0.2403.157 Safari/537.36" [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D55L9FF1ADFF3" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/44.0.2403.157 Safari/537.36" [07/Jan 18:10:56:187] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 3865 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=KQ-CW-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/44.0.2403.157 Safari/537.36" [07/Jan 18:10:56:189] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 3865 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=KQ-CW-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/44.0.2403.157 Safari/537.36" [07/Jan 18:10:56:189] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 3865 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-26&product_id=KQ-CW-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/44.0.2403.157 Safari/537.36"

Design Principles

Pillar-oriented guidelines

- ▶ Design principles are documented and assigned to the appropriate pillar
- ▶ Each tier-specific recommendation references the underlying design principle(s)



Design Principle Examples

Pillar: Security

- ▶ Design for a secure system from the start
- ▶ Employ state-of-the art protocols for all communications
- ▶ Allow for broad-level and granular access to event data
- ▶ Employ centralized authentication
- ▶ Implement auditing procedures
- ▶ Reduce attack or malicious use surface area



Tier-Specific Recommendations Example

Tier: Search

- ▶ Minimize network path length between SHs and indexers - PERF
- ▶ Avoid using multiple, independent SHs – MGMT, SCAL, AVLB
- ▶ Consider LDAP Auth whenever possible – MGMT, SEC
- ▶ Ensure sufficient cores for concurrent search needs – PERF, SCAL
- ▶ Etc.

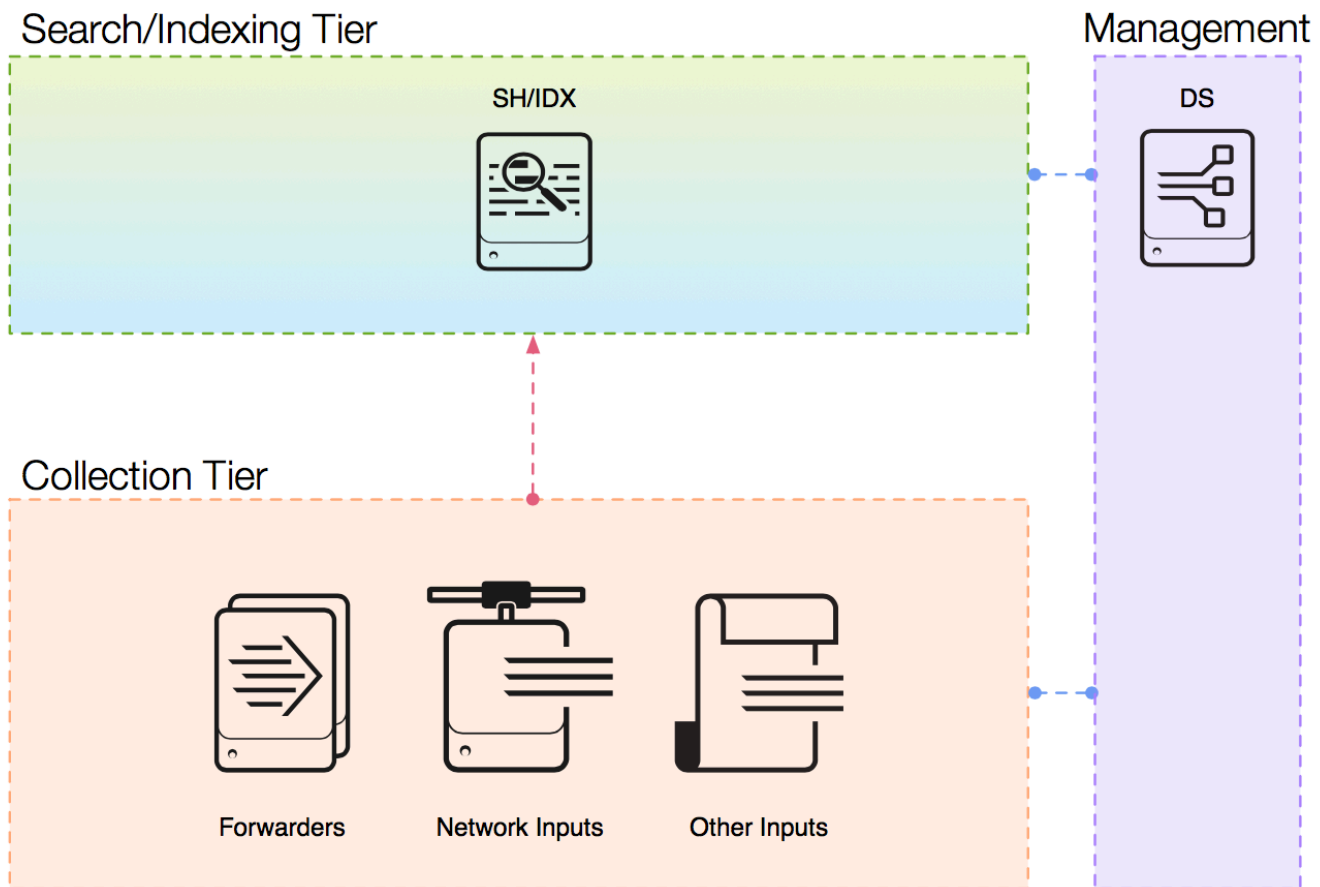
Topology Examples

A Sneak Peek

Example 1: Single Server

Topology Diagram

Single Server Deployment



```
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15LAF10VW...  
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D55L7FF6ADFF9 HTTP/1.1" 200 1318 "http://www.splunk.com/...  
ows NT 5.1; SV1; .NET CLR 1.1.4322) "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D55L7FF6ADFF9 HTTP/1.1" 200 3855 "http://www.splunk.com/...  
:/buttercup-shopping_id=RP-LI-02" 468 125.17 14.11.11.11 "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 3855 "http://www.splunk.com/...  
:action=purchase&is.com/oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 3855 "http://www.splunk.com/...  
//buttercup-shopping_id=RP-LI-02" 468 125.17 14.11.11.11 "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 3855 "http://www.splunk.com/...  
:action=remove&item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 3855 "http://www.splunk.com/...  
/buttercup-shopping_id=RP-LI-02" 468 125.17 14.11.11.11 "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 3855 "http://www.splunk.com/...
```

Example 1: Single Server

Characteristics

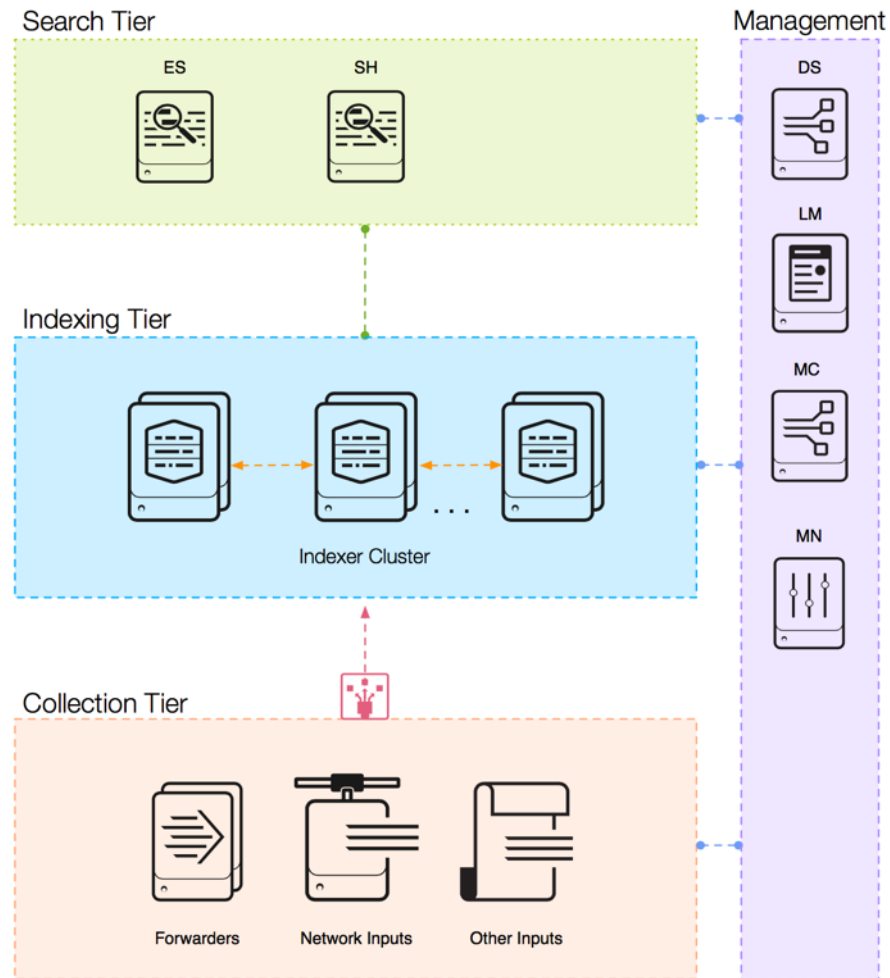
- ▶ Departmental, non-critical use cases up to ~300GB/day (Data Onboarding Test environments, small Enterprise log management)
- ▶ No High Availability for Search/Indexing
- ▶ Scalability limited by hardware capacity, but easy migration path to a distributed deployment exists
- ▶ Simple Management

```
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15LAF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-01"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=K0-CW-01"
ows NT 5.1; SV1; .NET CLR 1.1.4322" 468 125.17 14.1.1.1 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-16&product_id=RP-LI-02"
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15LAF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-01"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=K0-CW-01"
ows NT 5.1; SV1; .NET CLR 1.1.4322" 468 125.17 14.1.1.1 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-16&product_id=RP-LI-02"
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D15L7FF6ADFF0"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 3865 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-18"
ows NT 5.1; SV1; .NET CLR 1.1.4322" 468 125.17 14.1.1.1 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-16&product_id=RP-LI-02"
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D15L7FF6ADFF0"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 3865 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-18"
ows NT 5.1; SV1; .NET CLR 1.1.4322" 468 125.17 14.1.1.1 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-16&product_id=RP-LI-02"
```

Example 2: Distributed Single-Site Cluster

Topology Diagram

Distributed Clustered Deployment - Single Site



Example 2: Distributed Single-Site Cluster

Characteristics

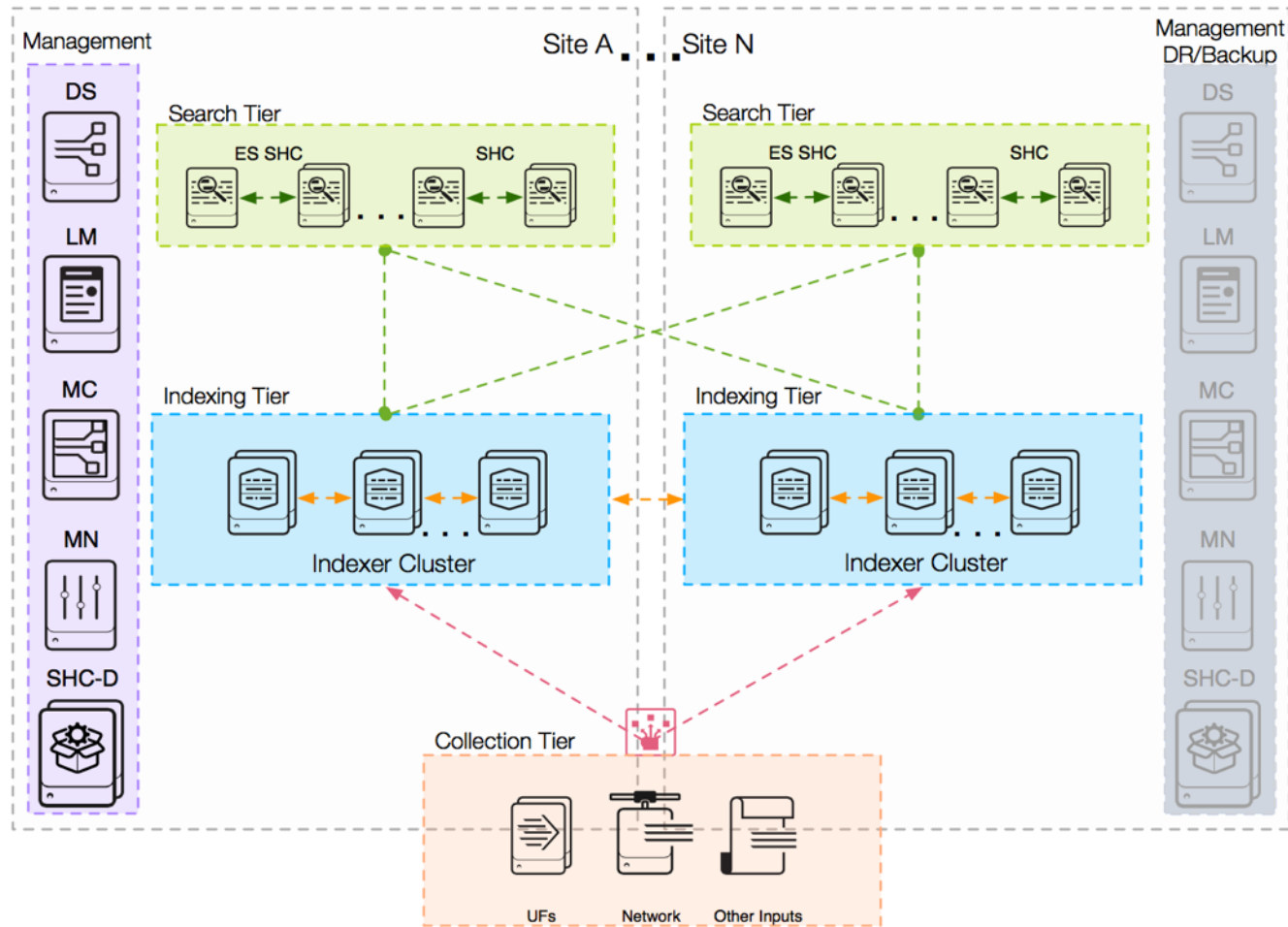
- ▶ High Availability for data ingestion and search peers via configurable data replication
- ▶ Horizontally scalable indexing to multi-TB/day
- ▶ Total number of unique buckets in indexer cluster limited to 5MM as of Kimono (6.6), 15MM total buckets
- ▶ No DR capability in case of data center outage
- ▶ No HA capability for SH tier
- ▶ ES (if used) requires dedicated SH
- ▶ Replication is non-deterministic, cluster decides on replication target node

```
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP/1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-5W-01"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP/1.1" 404 3322 "http://shopping.com/cart.do?action=purchase&itemId=EST-268product_id=KQ-CU-01"
137.27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D15L8FF2ADFF9 HTTP/1.1" 200 2423 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-10&product_id=LI-02"
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP/1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-5W-01"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP/1.1" 404 3322 "http://shopping.com/cart.do?action=purchase&itemId=EST-268product_id=KQ-CU-01"
137.27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D15L8FF2ADFF9 HTTP/1.1" 200 2423 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-10&product_id=LI-02"
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L4FF10ADFF10 HTTP/1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-5W-01"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP/1.1" 404 3322 "http://shopping.com/cart.do?action=purchase&itemId=EST-268product_id=KQ-CU-01"
137.27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP/1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D15L8FF2ADFF9 HTTP/1.1" 200 2423 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-10&product_id=LI-02"
```

Example 3: Distributed Multi-Site Cluster

Topology Diagram

Distributed Clustered Deployment + SHC - Multi-Site



Example 3: Distributed Multi-Site Cluster

Characteristics

- ▶ Provides protection against site failure
- ▶ Adds Search Head Clustering to the search tier.
- ▶ Ideally, continuous operation of Search Head tier, when properly configured
- ▶ Dedicated ES SHC required
- ▶ Search head capacity is shared and (scheduled) search artifacts are replicated in each SHC
- ▶ WAN latency must be <100ms

130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15L9FF1ADFF3 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-03" "Mozilla/5.0 (Windows NT 5.1; SV1; .NET CLR 1.1.4322)" "00000000-0000-0000-0000-000000000000"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-268&product_id=KQ-CU-01" "Mozilla/5.0 (Windows NT 5.1; SV1; .NET CLR 1.1.4322)" "00000000-0000-0000-0000-000000000000"
317.27.160.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D55L9FF1ADFF3" "Mozilla/5.0 (Windows NT 5.1; SV1; .NET CLR 1.1.4322)" "00000000-0000-0000-0000-000000000000"
10.10.10.10 - - [07/Jan 18:10:55:187] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 3865 "http://buttercup-shopping.com/category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3" "Mozilla/5.0 (Windows NT 5.1; SV1; .NET CLR 1.1.4322)" "00000000-0000-0000-0000-000000000000"
10.10.10.10 - - [07/Jan 18:10:55:188] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 3865 "http://buttercup-shopping.com/category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3" "Mozilla/5.0 (Windows NT 5.1; SV1; .NET CLR 1.1.4322)" "00000000-0000-0000-0000-000000000000"



How To Choose The Right SVA?

You Have To Pay For Getting Bling!

Topology Feature Matrix

	Single Server	Distributed	Single-Site	Multi-Site	+SHC
Ingest HA (+search peer HA)		●	●	●	n/a
Search Tier HA					●
Horizontal SH Scaling					●
Horizontal IDX Scaling		●	●		
Disaster Recovery/Site failover				● ¹	●
Simple Management	●		●	●	

(1) Management roles (CM, LS, etc.) may need to be failed over manually

You Pay For What You Get!

How architecture choices affect TCO

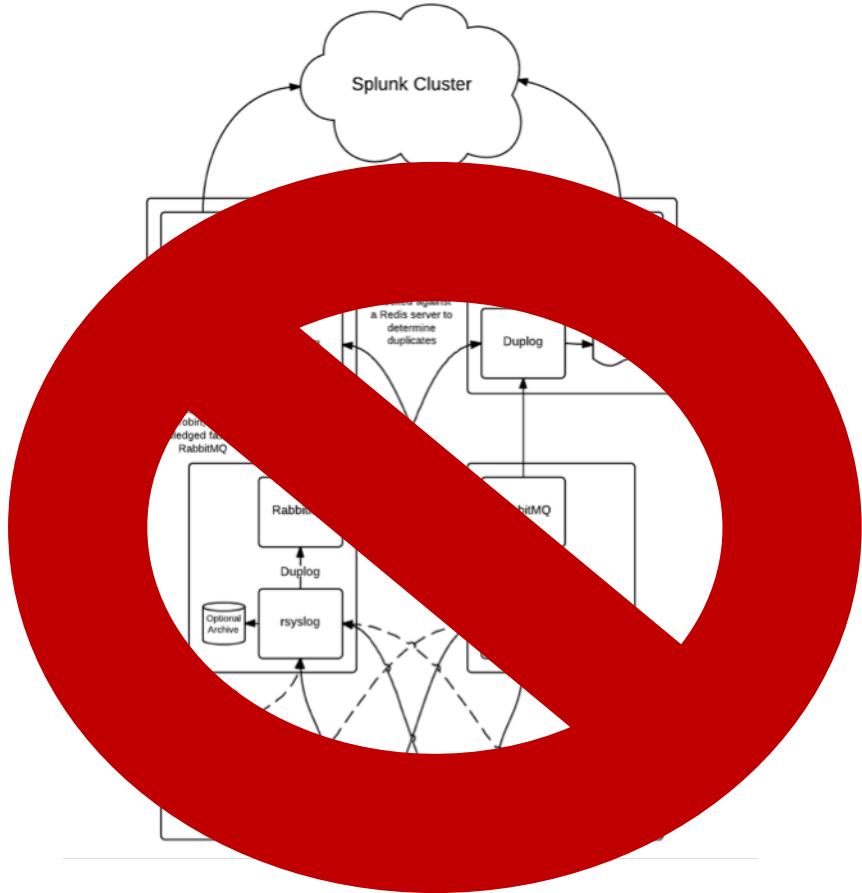
	Availability	Scalability	Cost
Single-Server	low	limited	fixed
Distributed	Ingest only	unlimited	Linear increase with node count
Clustered, Single	Ingest & Search (on indexers) HA	Bucket count limits	More nodes/storage for same ingest (RF)
Clustered, Multi	Ingest & Search, DR (on indexers)	Bucket count limits, WAN bandwidth	See above + WAN bandwidth cost
Added SHC	Search tier HA	Max. 50 SHC members	Linear increase with node count, need LB

#FAIL

What Svas Are Trying To Prevent

#FAIL 1: Syslog Data Collection

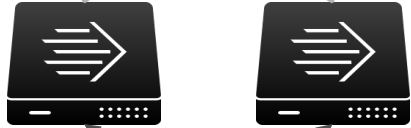
Trying to prevent UDP data loss



Indexers



Syslog Server + UF



Load Balancer



UDP Source

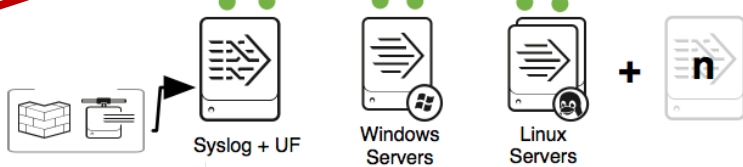
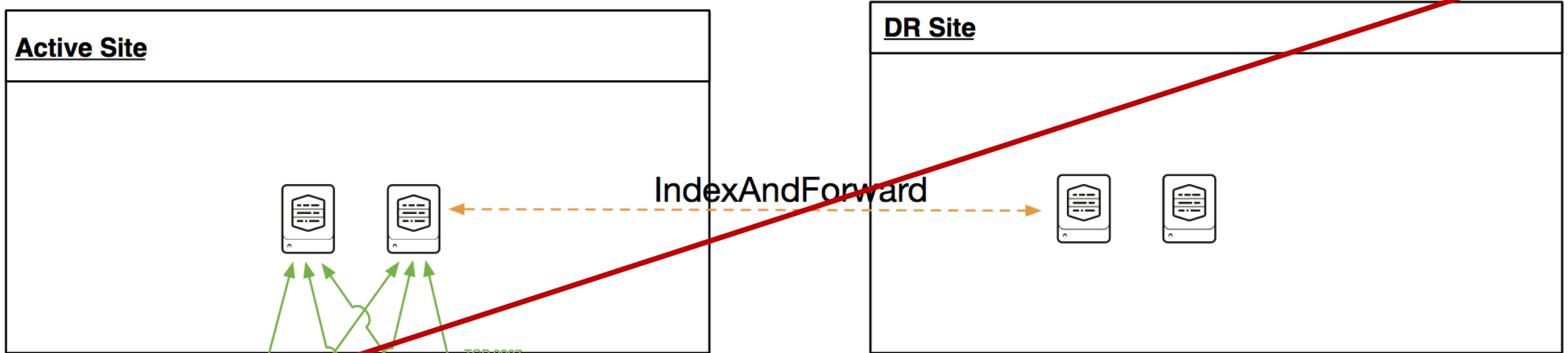


130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=SD1SLAFF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-03" "Mozilla/5.0 (Windows NT 5.1; SV1; NET CLR 1.1.4322)" 468 125.17 14
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=SD35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-268product_id=KQ-CU-01" "Mozilla/5.0 (Windows NT 5.1; SV1; NET CLR 1.1.4322)" 468 125.17 14
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=SD1SLAFF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-03" "Mozilla/5.0 (Windows NT 5.1; SV1; NET CLR 1.1.4322)" 468 125.17 14
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=SD35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-268product_id=KQ-CU-01" "Mozilla/5.0 (Windows NT 5.1; SV1; NET CLR 1.1.4322)" 468 125.17 14
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=SD1SLAFF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=FI-SW-03" "Mozilla/5.0 (Windows NT 5.1; SV1; NET CLR 1.1.4322)" 468 125.17 14
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=SD35L7FF6ADFF0 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-268product_id=KQ-CU-01" "Mozilla/5.0 (Windows NT 5.1; SV1; NET CLR 1.1.4322)" 468 125.17 14

#FAIL 2: IndexAndForward

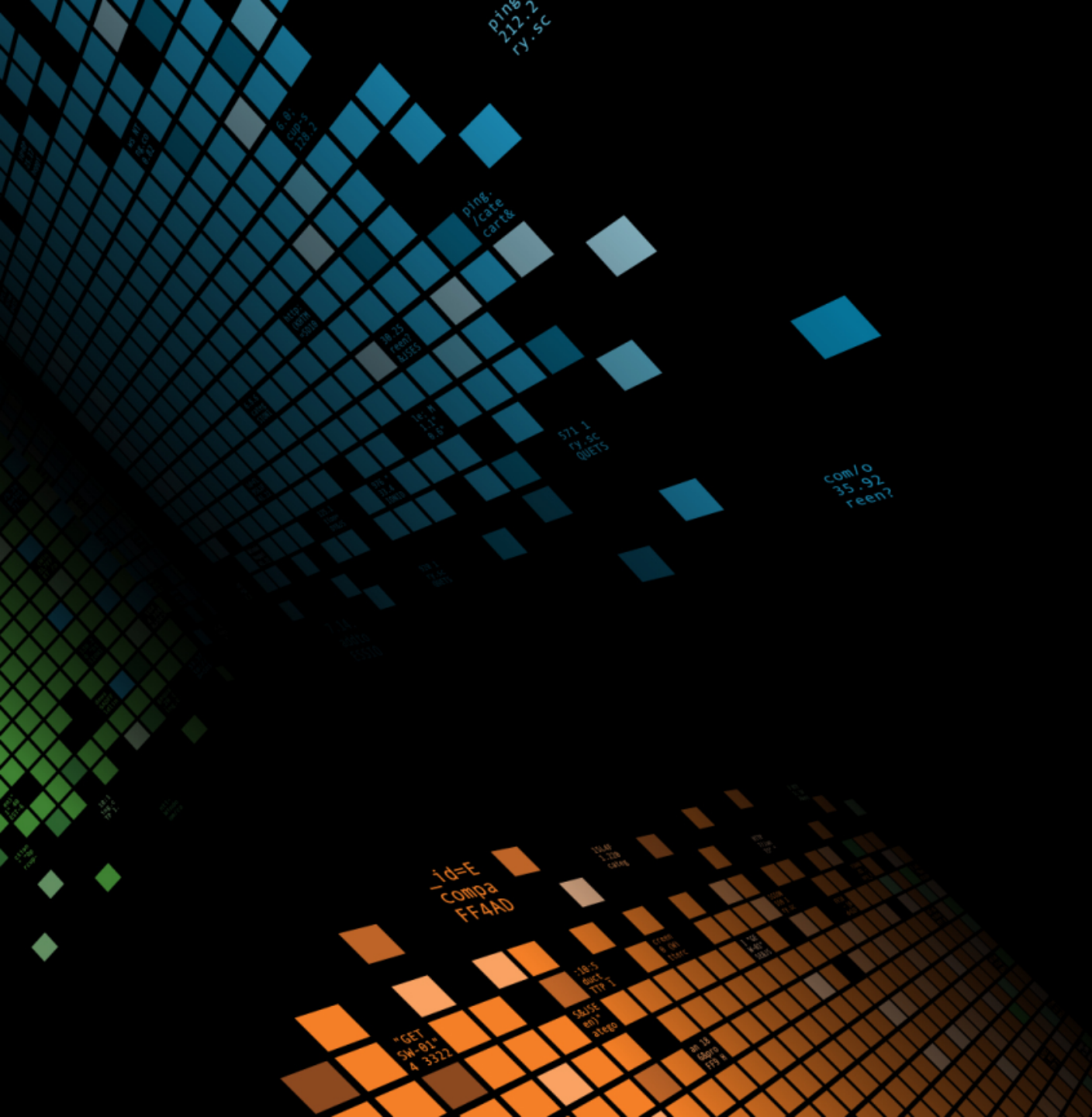
Covering the DR case

Home-Grown Replication



Use Multi-Site Clustering for HA/DR needs

130.60.4... [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-01" Mozill...
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-18" Mozill...
317.27.160.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 468 125.17 14... sscreen?category_id=FLOWERS&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-18" Mozill...
10 - - [07/Jan 18:10:57:123] "GET /category.screen?category_id=GIFTS&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-01" Mozill...
130.60.4 - - [07/Jan 18:10:57:123] "GET /category.screen?category_id=GIFTS&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-01" Mozill...
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-18" Mozill...
317.27.160.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 468 125.17 14... sscreen?category_id=FLOWERS&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-18" Mozill...
10 - - [07/Jan 18:10:57:123] "GET /category.screen?category_id=GIFTS&JSESSIONID=SD5L9FF1ADFF3 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-01" Mozill...



Summary

It's A Wrap!

SVAs For The Win!

A step-by-step guide

**Step
1**

Identify and define the requirements of your organization/customer
Don't add 'sexy' things if they are not needed

**Step
2**

Match requirements to the proper topology using the characteristics
You will get the required topology to meet your needs

**Step
3**

Build out the topology using tier-specific recommendations
You will have a proven architecture

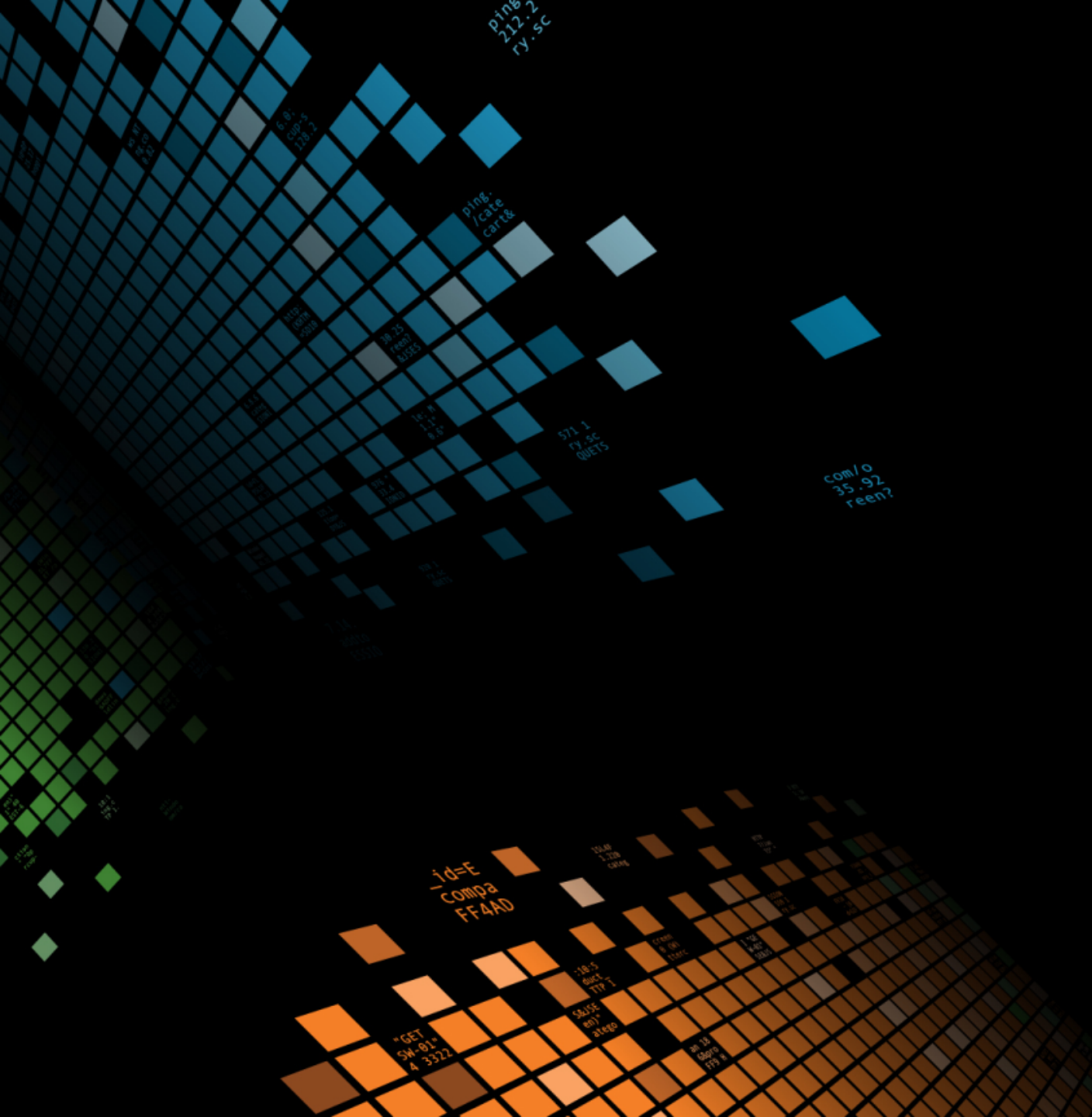
**Step
4**

Choose implementation details
OS choices, Capacity planning, Sizing, Staffing

Where Is It?

- ▶ SVAs will be published as a **White Paper** in the splunk.com under the **Resources** section
- ▶ We will update the content as the product feature set introduces future changes
- ▶ We appreciate your feedback!
 - Do you think this is useful content?
 - What would make it better?
 - **Please let us know via your .conf app feedback. And thank you!**

```
130.60.4 - - [07/Jan 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D15LAF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
128.241.220.82 - - [07/Jan 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D35L7FF6ADFF0 HTTP 1.1" 404 322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-268&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
317.27.160.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D55L9FF1ADFF3" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
10.0.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-6&JSESSIONID=5D15LAF10ADFF10 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-6&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
10.0.0.0 - - [07/Jan 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 468 125.17.14.1 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
10.0.0.0 - - [07/Jan 18:10:56:156] "GET /category.screen?category_id=FLOWERS&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-6&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
10.0.0.0 - - [07/Jan 18:10:56:156] "GET /category.screen?category_id=SURPRISE&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-6&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
10.0.0.0 - - [07/Jan 18:10:56:156] "GET /category.screen?category_id=EST-1&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-1&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
10.0.0.0 - - [07/Jan 18:10:56:156] "GET /category.screen?category_id=EST-1&JSESSIONID=5D55L9FF1ADFF3 HTTP 1.1" 200 385 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-1&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
10.0.0.0 - - [07/Jan 18:10:56:156] "GET /category.action=remove&itemId=EST-1&product_id=K0-CB-01" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6; rv:53.0) Gecko/20100801 Firefox/53.0"
```

Q&A

Thank You

Don't forget to **rate this session** in the
.conf2017 mobile app

splunk® **.conf2017**