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STKI's IT as a Service (ITaaS) initiative

For a while" is a phrase whose length can't be measured. At least by the person who's waiting.
— Haruki Murakami

STKI's IT as a Service (ITaaS) initiative

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What is IT as a Service?

ITaaS

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IT delivery:
Infrastructure &
Operations as a Service

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ITaaS
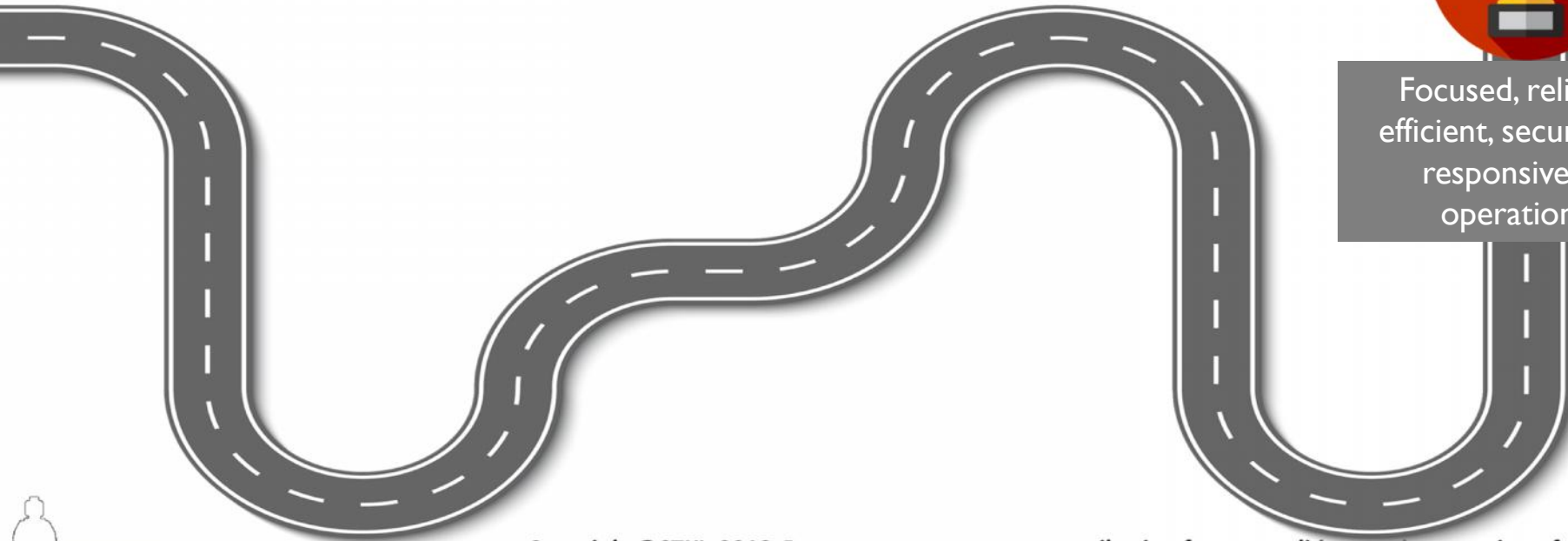
IT as a Service Initiative destination

Why?

Current IT delivery is considered expensive, in-efficient, rigid, old fashioned and holding back the business

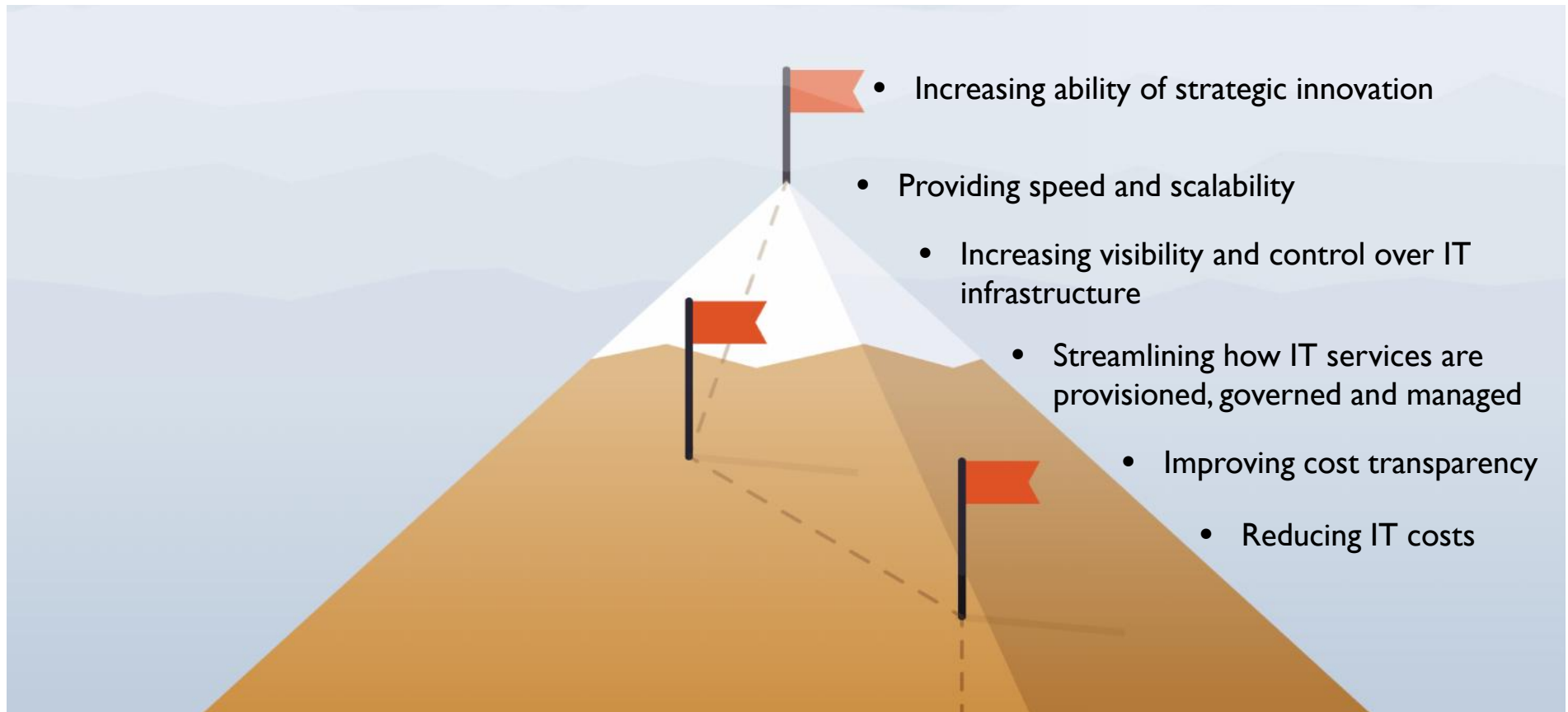Gaining the adaptive ability to **deliver IT at the speed of change**

Focused, reliable, efficient, secure and responsive IT operations

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ITaaS

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The core of ITaaS has not changed

- Increasing ability of strategic innovation
- Providing speed and scalability
- Increasing visibility and control over IT infrastructure
- Streamlining how IT services are provisioned, governed and managed
- Improving cost transparency
- Reducing IT costs

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So…
What's different today
than what we did for so many years?

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We will provide concrete recommendations

פורמט לבניית תוכנית עבודה

מטרה	היעד התחומי	תפוקות ארגוניות	מדדים להשגת היעד	אבני דרך מרכזיות	לו"ז התחלה	Q1	Q2	Q3	Q4	משאבים (תקצ"ב,כ"א)

So that you can copy and paste it to your plan

And not leave it too vague

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Goals & measurements

New Data Canter

Processes & organization

Zero ticketing

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ITaaS

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How can ITaaS become focused?
By setting up goals and establish metrics!!
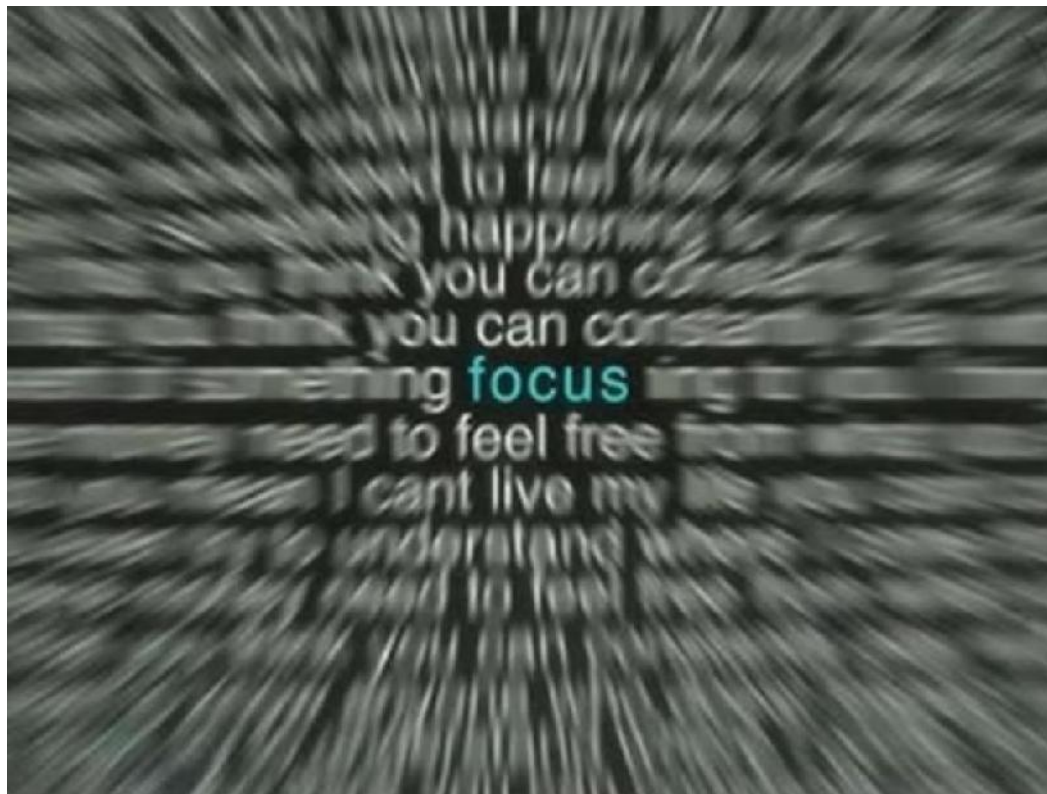
goals & measurements

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Trek name:

Define ITaaS goals and metrics / measurements

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Availability, service & efficiency metrics are common
Business responsiveness and cyber metrics are much less common

STKI Helpful Tip

Don't stay with a metric too long

goals & measurements

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IT Knowledge Integrators

נייר עמדה

מדידה בתחום סייבר

גרסה: 1

MEASURING THE SUCCESS OF DEVOPS

2016
Server Ratios - Windows

- Number of Windows Servers (logical) per System member

Per FTE	All Win Servers	Prod Win Servers
25 percentile	100 servers	67 servers
Median	125 Servers	75 Servers
75 percentile	222 Servers	129 servers

- Server is either physical or virtual
  - This includes SBC\VDI (Citrix\WTS\Jetro) support
- For development environments ratios can grow up to 600 servers per FTE
- Organizations with 100% identical servers in branches can get ratios up to 1500 servers per FTE
- Sometimes (separate) virtualization team gives services to both Windows and Linux

Source: STKI

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Define role :"business technology availability"

One part of his role :"handle failures"

goals & measurements

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Helpful Tip

Measure availability objectively with user experience tools

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Another important role: "change & maintenance manager"

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Helpful Tip

The "business technology availability" person **is** the "change & maintenance manager"

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Only "availability minded gatekeeper" can improve ITaaS reliability

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STKI's DevSecOps measurement manifesto:

Measure productivity\quality

Measure ops
(availability, etc…)

ops   dev   sec

Measure cyber

goals &
measurements

STKI's DevSecOps measurement manifesto:

Measure productivity\quality <u>along with cyber</u>

Measure ops <u>along with cyber</u>

Measure cyber

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STKI's DevSecOps measurement manifesto:

Measure productivity\quality <u>along with</u> cyber
& ops

Measure ops <u>along with</u> cyber & dev productivity

dev

ops

sec
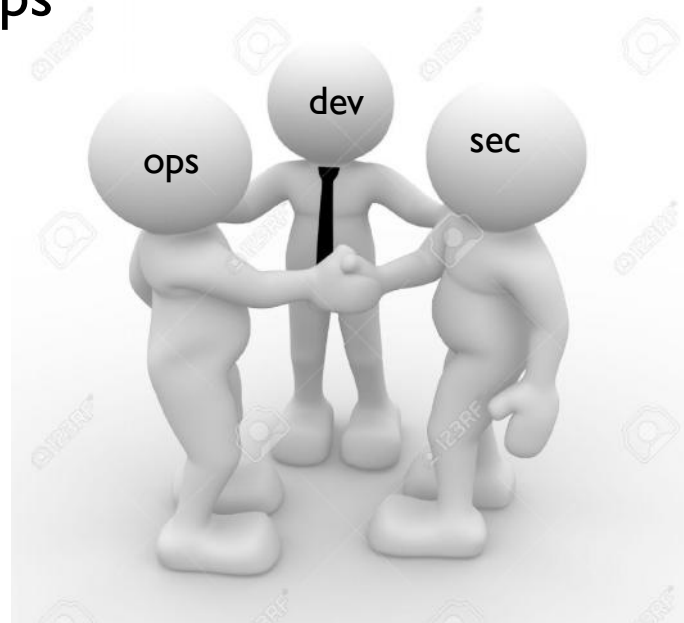
Measure cyber <u>along with</u> ops & dev productivity

goals & measurements

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Optimize the foundation

Set Open API
Re-build integration platform

Build container infrastructure

Set DC new principles

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Trek name:
Build new Data Center

HCI – hyperconverged infrastructure
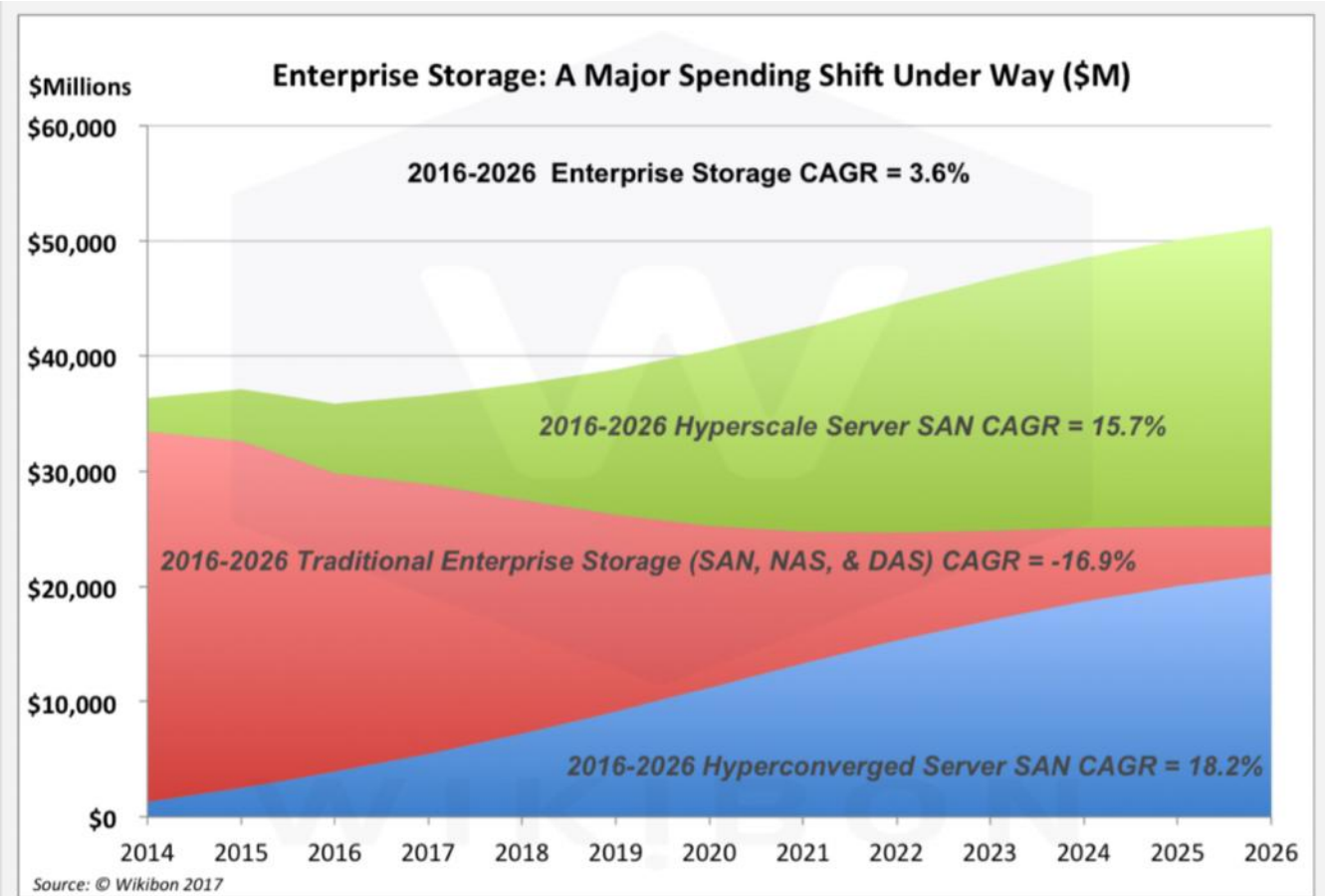
Source: wikibon

Figure 2 - Worldwide Revenue Projections for Enterprise Storage 2014-2026 ($M)

Source Wikibon 2017

Hyperscale infrastructure

Based on basic standard HW components setting up specific SW (sometimes opensource) configuration for large scale computing. Integrator & customer check if this specific server will work with this specific network HW \ opensource network OS, specific disks work with specific storage file system, etc.
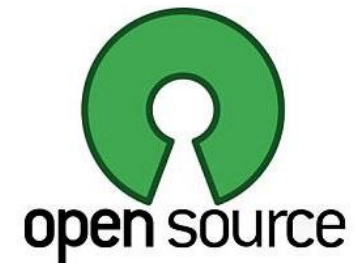
20

Set DC new architecture principles:

- o Build new technology lab preferably on cloud
- o Software defined based (programmable) technology
- o Maximize open source business value
- o Strive towards immutable infrastructure (servers)

Immutable infrastructure

In a traditional mutable server infrastructure, servers are continually updated and modified in place.

In immutable infrastructure servers are never modified after they're deployed.
If something needs to be updated, fixed, or modified in any way new servers built with the appropriate changes are provisioned to replace the old ones.

Improved Security

Immutable infrastructure with Docker and containers

Pets vs. Cattle

Source: digitalocean

The evolution of integration patterns

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Microservices connectivity
Service Mesh

Standard content definition
Open API standards

External partners
API management
developer portal

Cloud integration
IPaaS\advanced ESB

External (specific API)
API gateway
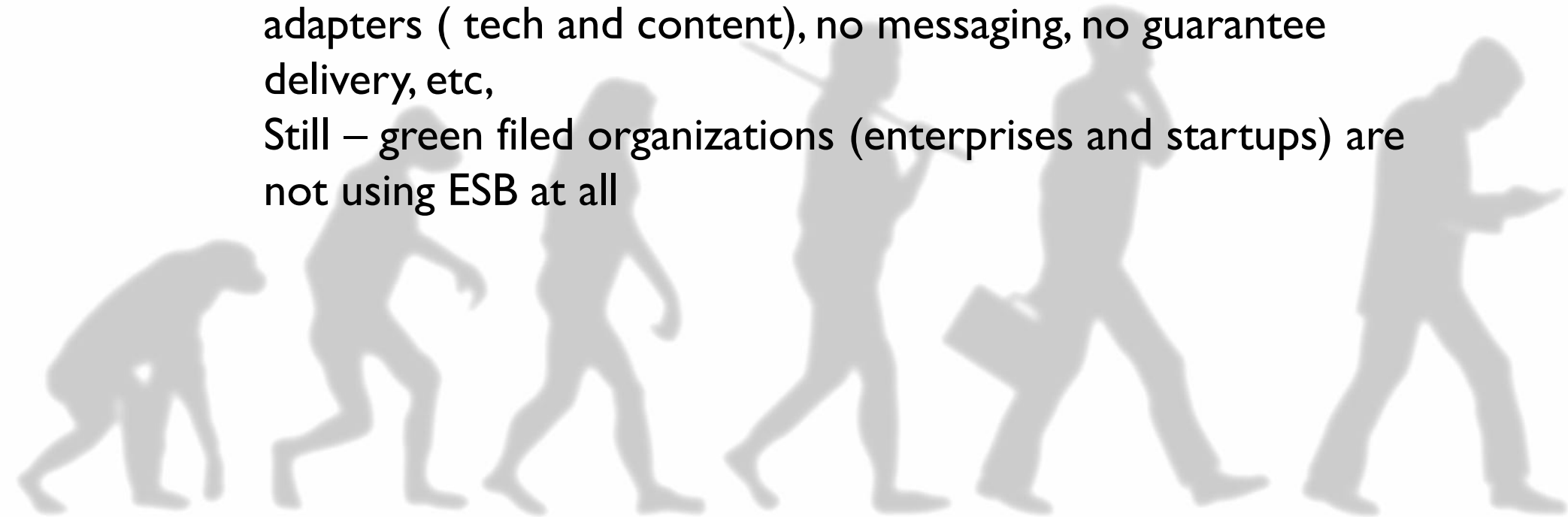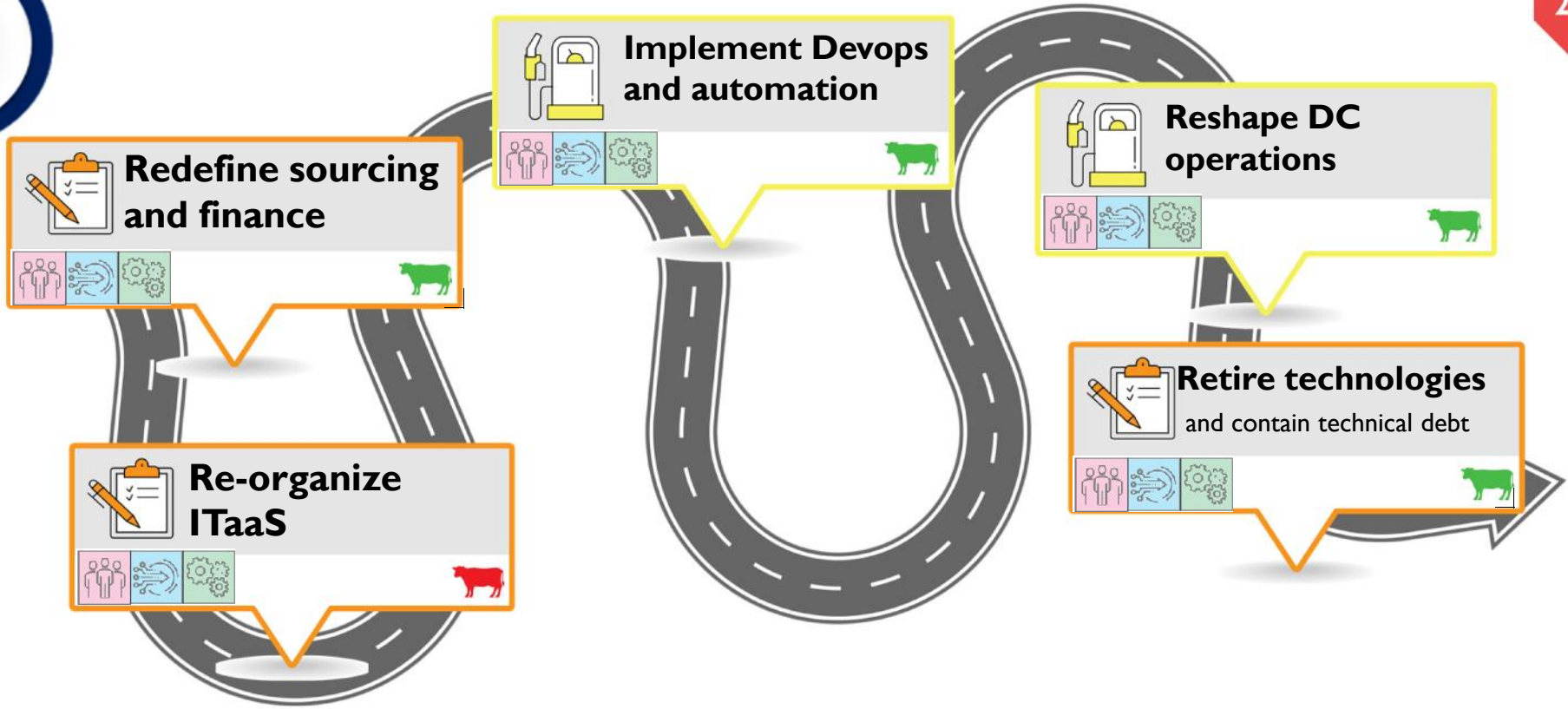
Internal integration
ESB

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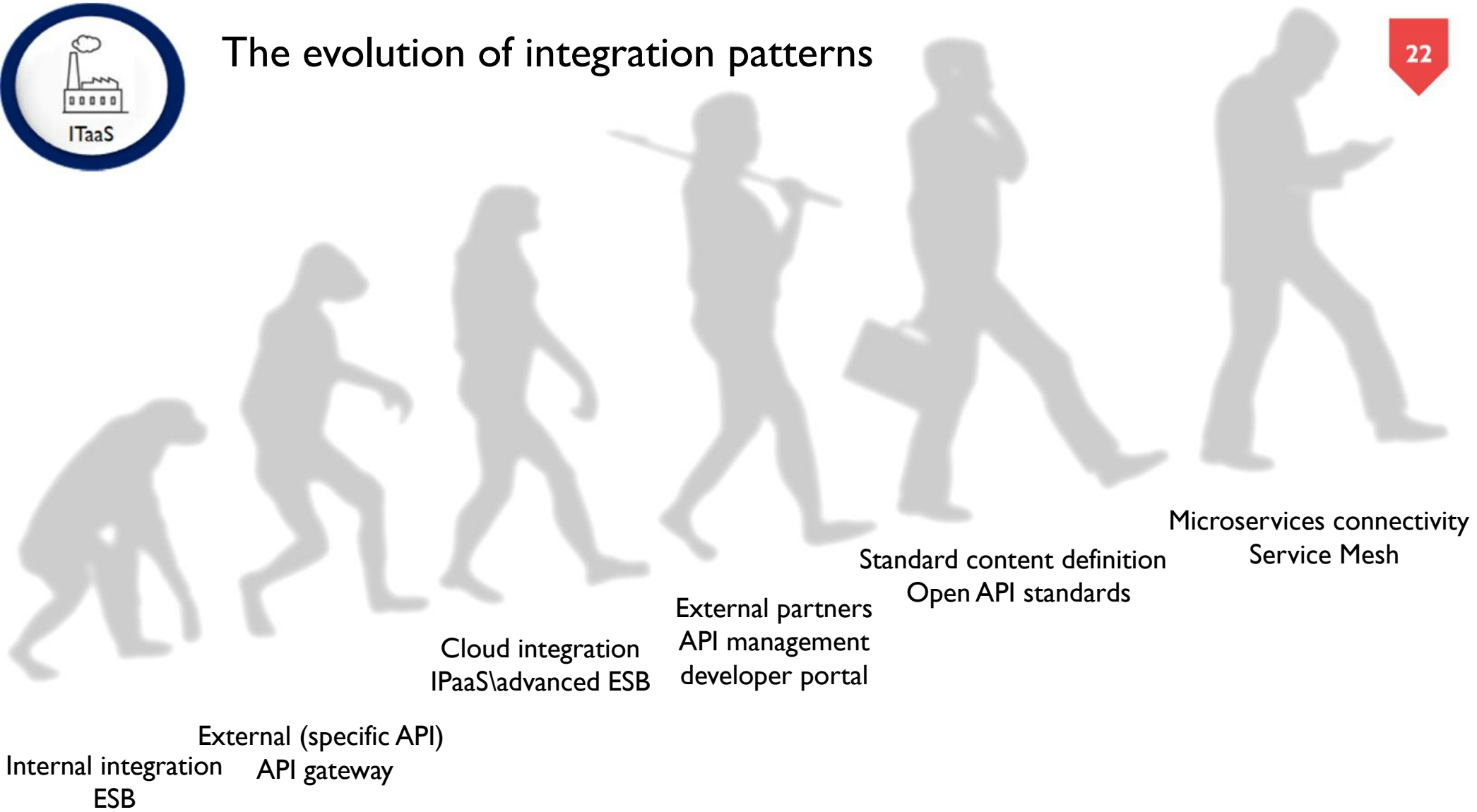
Will API management replace ESB?

It shouldn't – no oorchestration, no transformation, no
adapters (tech and content), no messaging, no guarantee
delivery, etc,
Still – green filed organizations (enterprises and startups) are
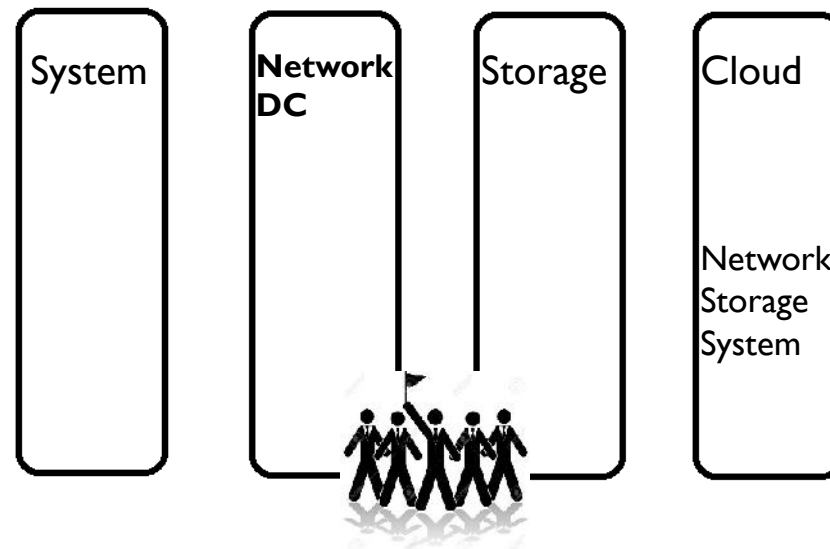not using ESB at all

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Re-organize ITaaS: new team for new technology\domain

- New dedicated team (for converged, cloud, devops, etc.) , with skills differentiated, into the same department

Easy but BAD!!

System	Network DC	Storage	Cloud
			Network Storage System

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processes & organization

Bad habits are like a comfortable bed, easy to get into, but hard to get out of.

(Anonymous)

izquotes.com

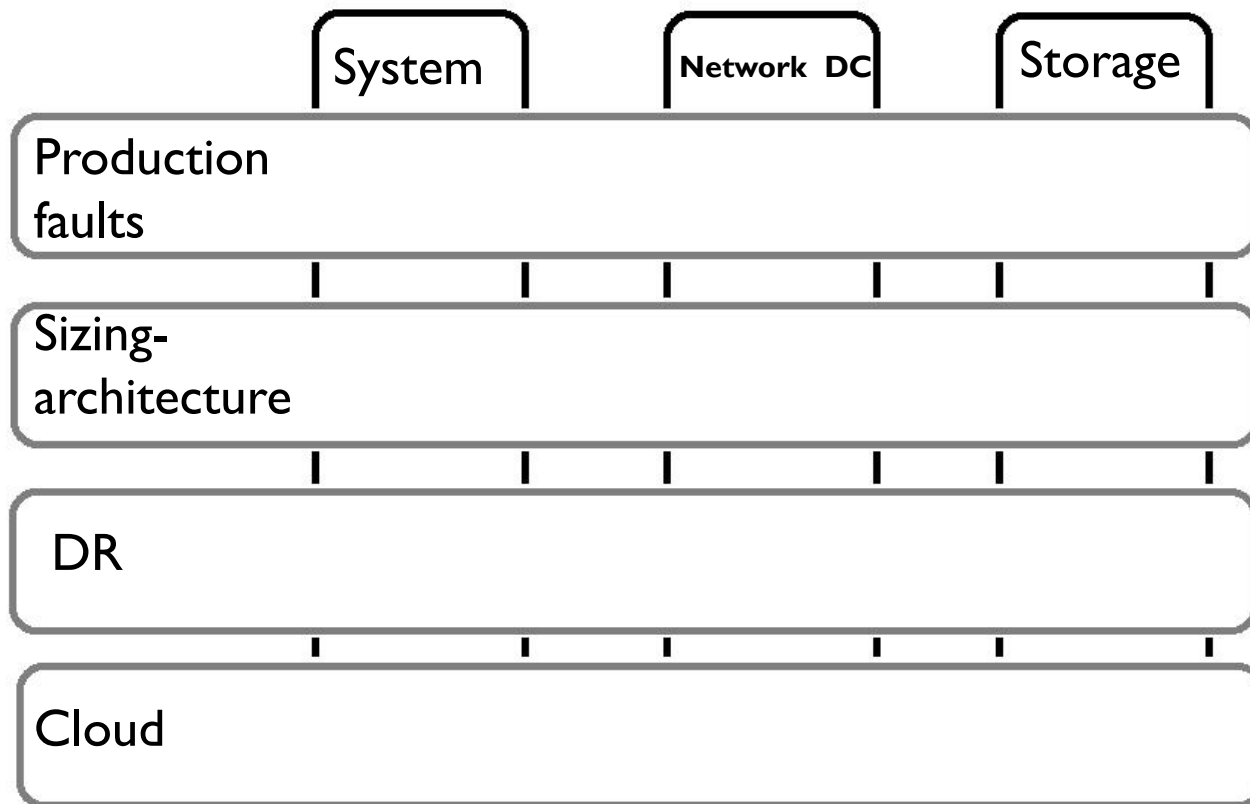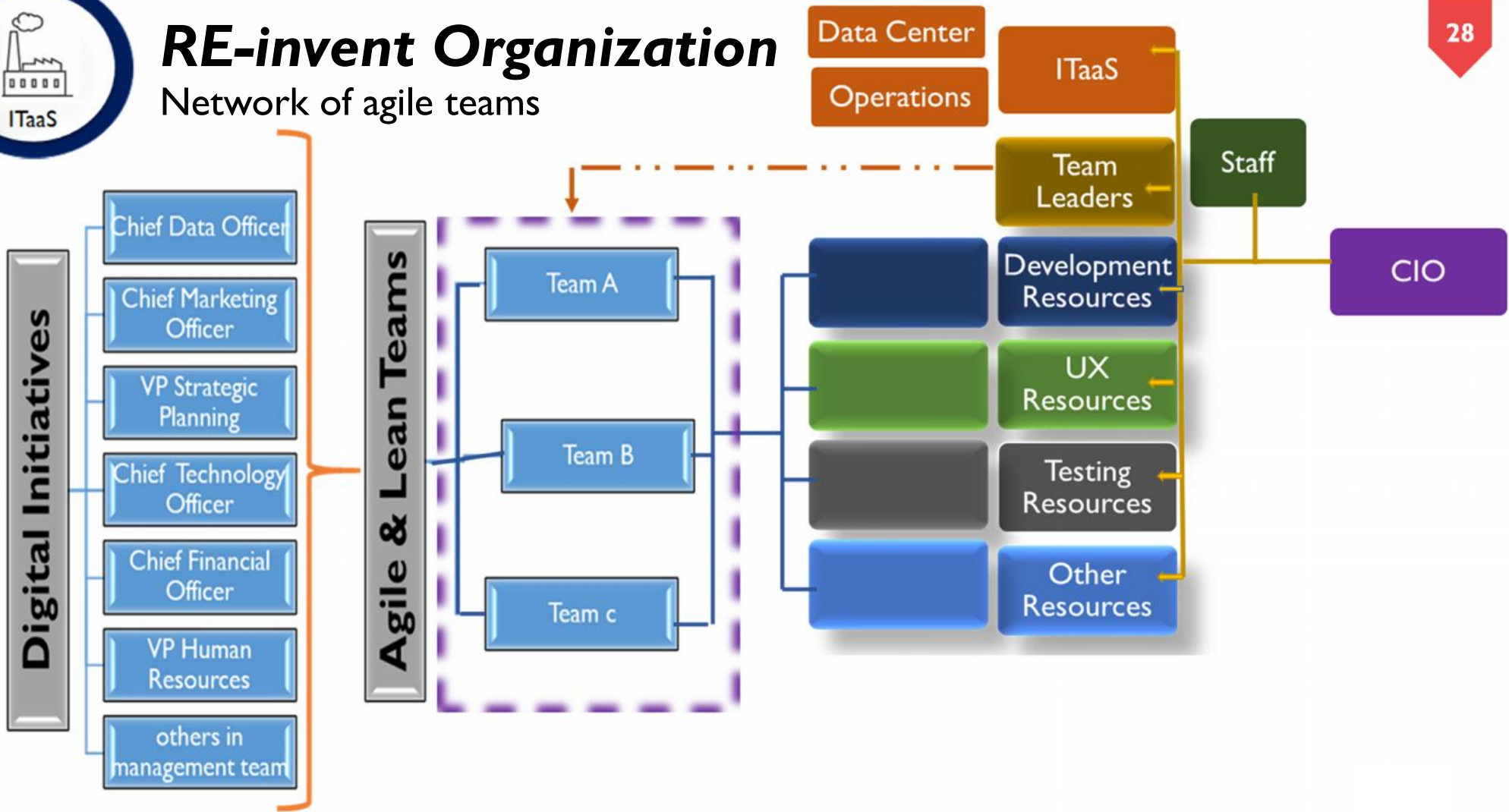# Re-organize ITaaS: combine old teams for delivering new technology\domain

Challenging but GOOD!!

	System	Network DC	Storage
Production faults			
Sizing-architecture			
DR			
Cloud			

processes & organization

RE-invent Organization
Network of agile teams

RE-invent Organization: ITaaS

Network of agile teams

Team Leaders

Network WAN	DBMS
	System
	Network DC
	SBC

Agile & Lean Teams

Team A

Team B

Team c

Delivery Manager

WORK IN PROGRESS

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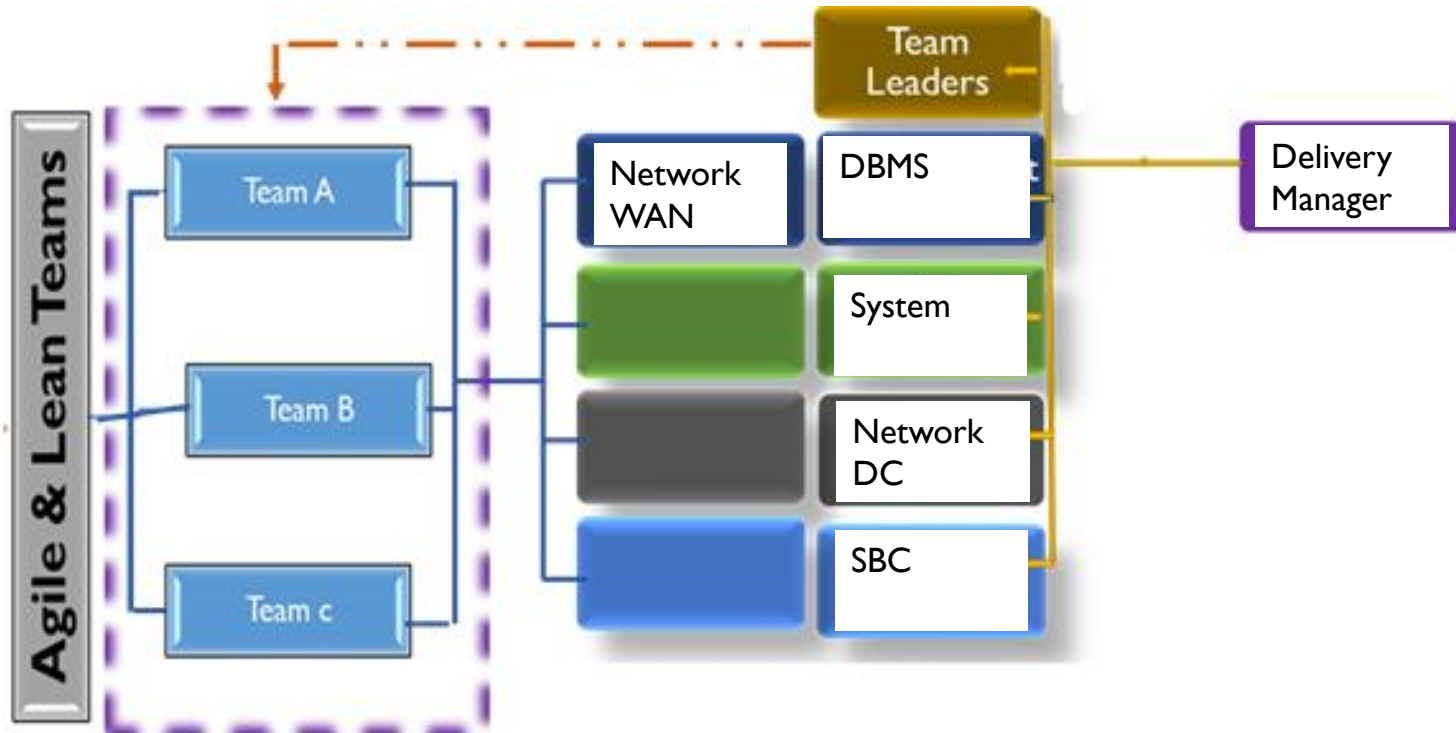
New organizations challenges

30

By Marty Appel
It's a whole new ball game!
About the only thing that hasn't changed in baseball during the past 30 years is "Four balls you're on" and "Three strikes you're out!"
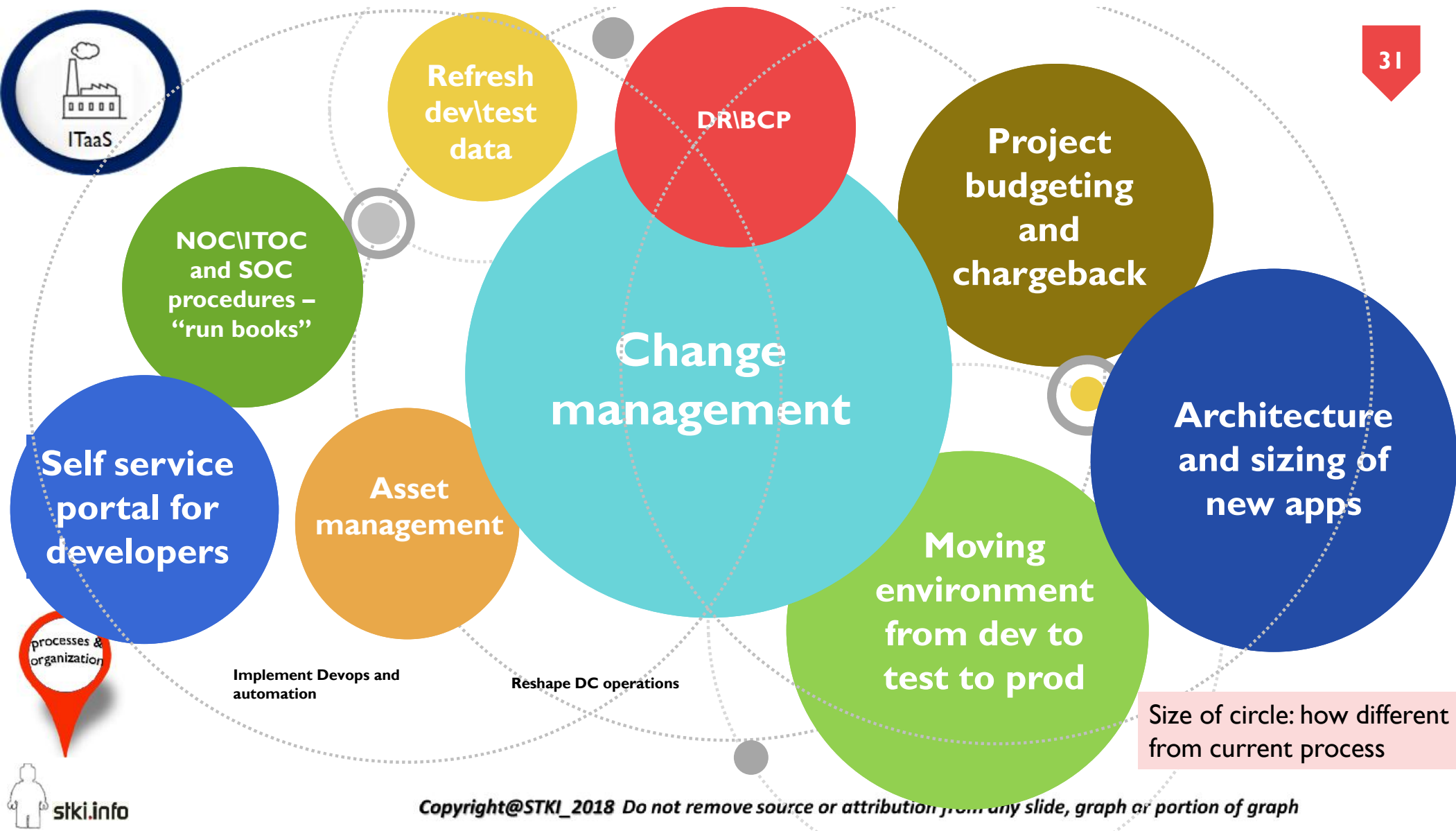
"I have many bosses"

What will managers do?

- learning and innovating
- network of agile teams (sharing knowledge)
- people "create followers" to grow in influence
- lead by orchestration
- culture of risk-taking
- teams and responsibilities defined but roles and titles change regularly
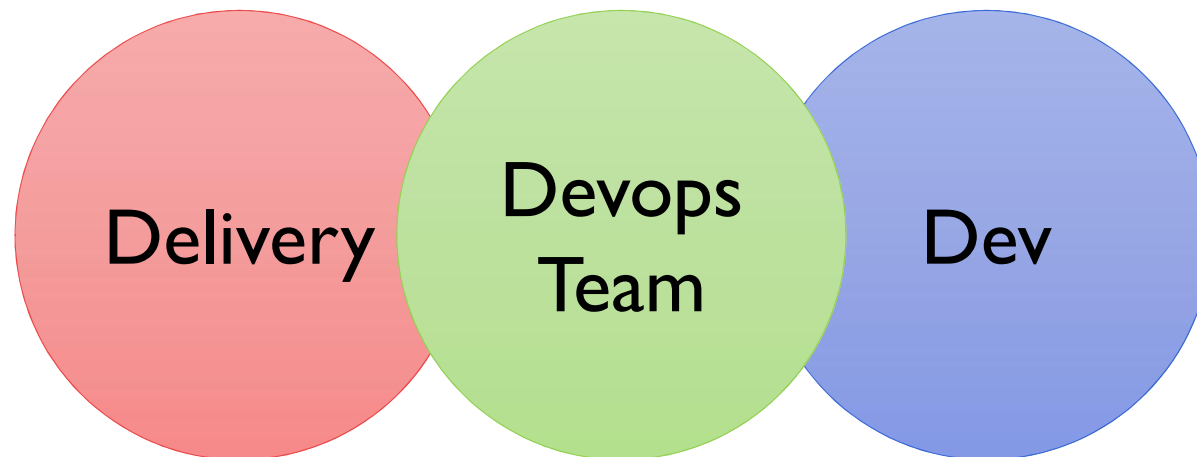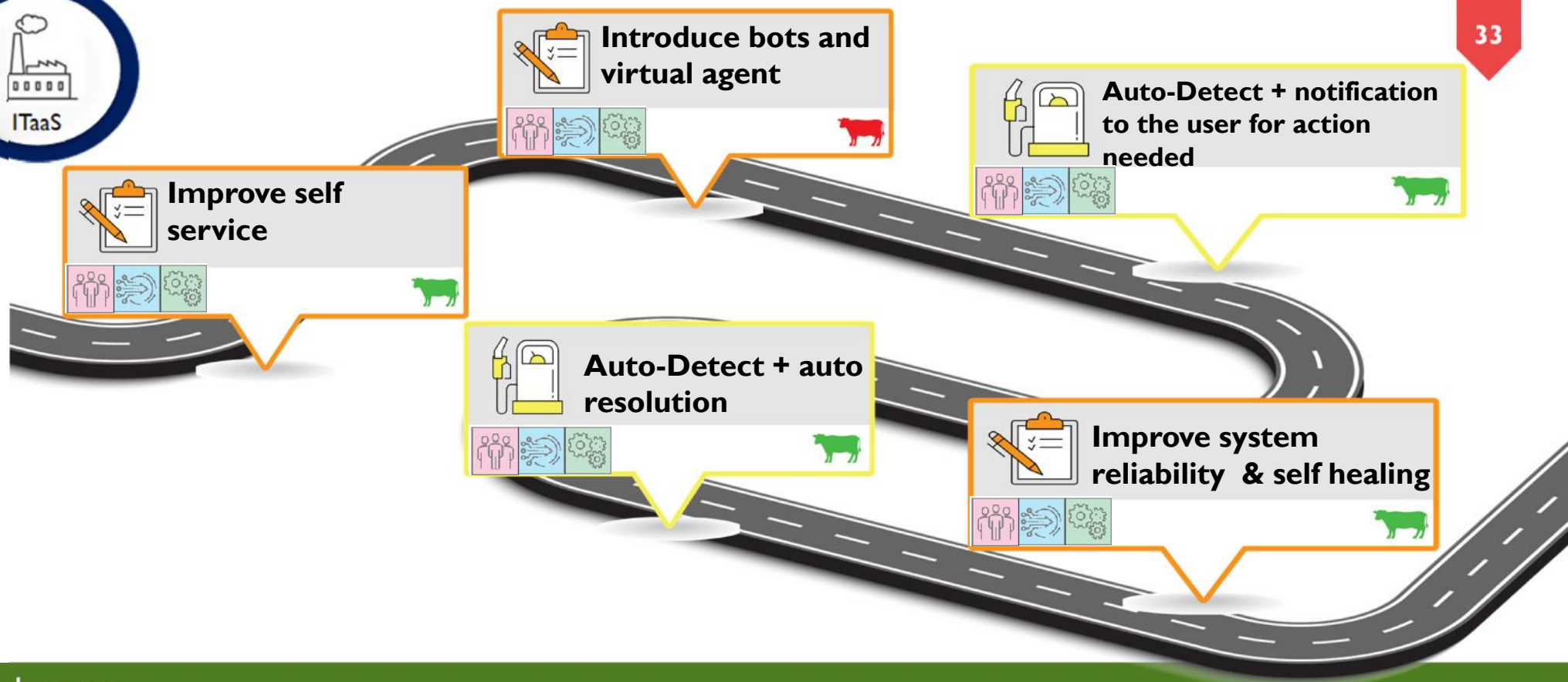- project based

processes & organization

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Refresh dev\test data

DR\BCP

Project budgeting and chargeback

NOC\ITOC and SOC procedures – "run books"

Change management

Architecture and sizing of new apps

Self service portal for developers

Asset management

Moving environment from dev to test to prod

processes & organization

Implement Devops and automation

Reshape DC operations

Size of circle: how different from current process

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The CI/CD (devops) team

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Helpful Tip

Use the existing team that builds/refreshes test environments as the foundation for CI\CD team

Delivery

Devops Team

Dev

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ITaaS

Introduce bots and virtual agent

Improve self service

Auto-Detect + notification to the user for action needed

Auto-Detect + auto resolution
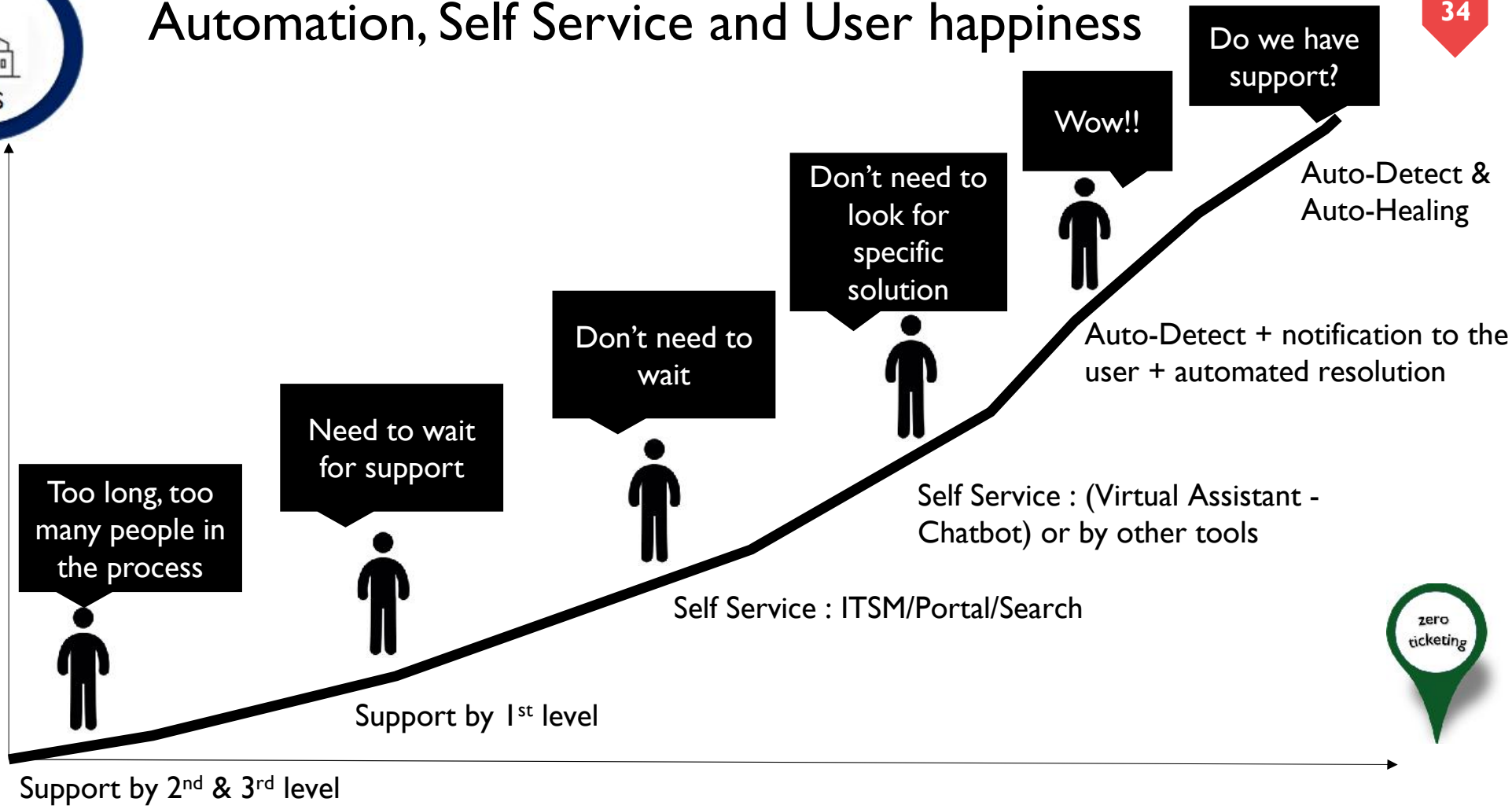
Improve system reliability & self healing

Trek name:
Zero ticketing

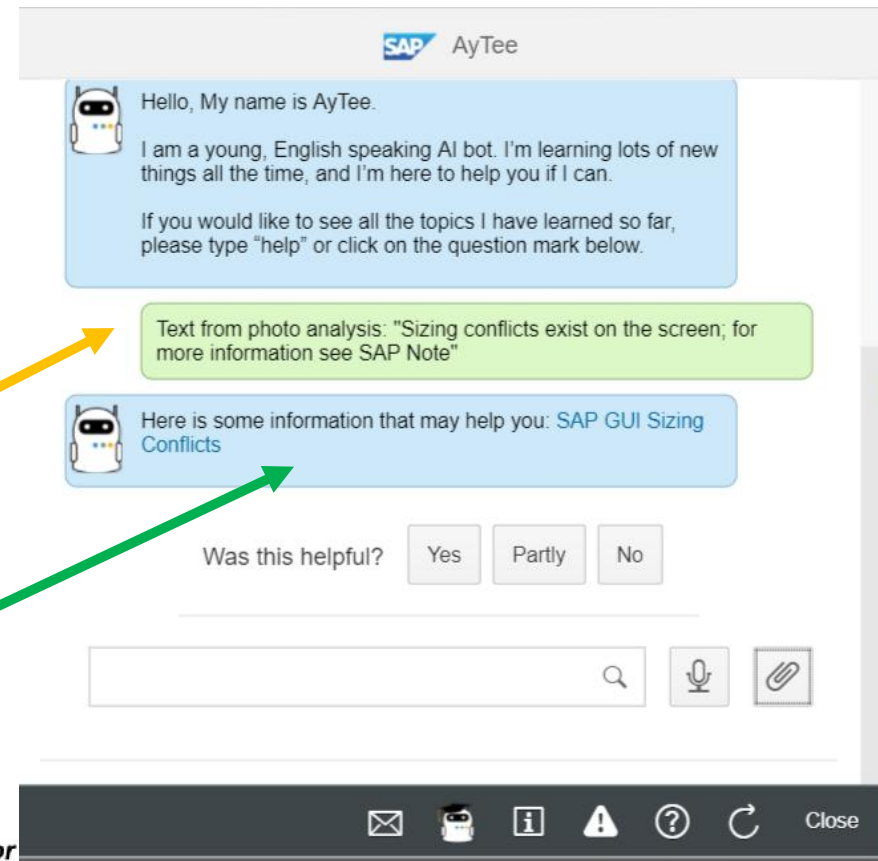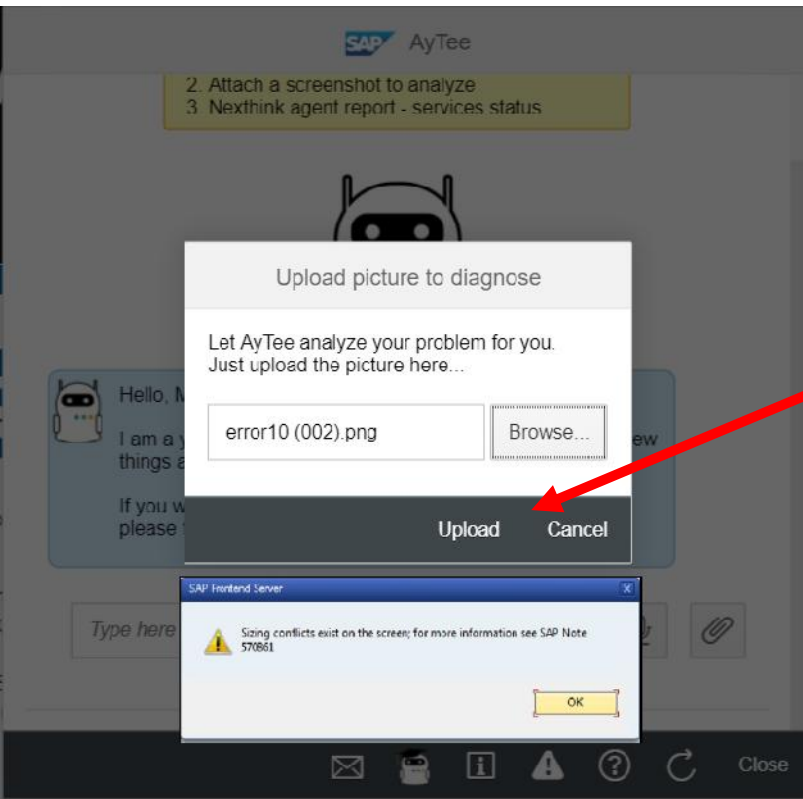# Automation, Self Service and User happiness

User uploads a screenshot
of an error (ocr…)

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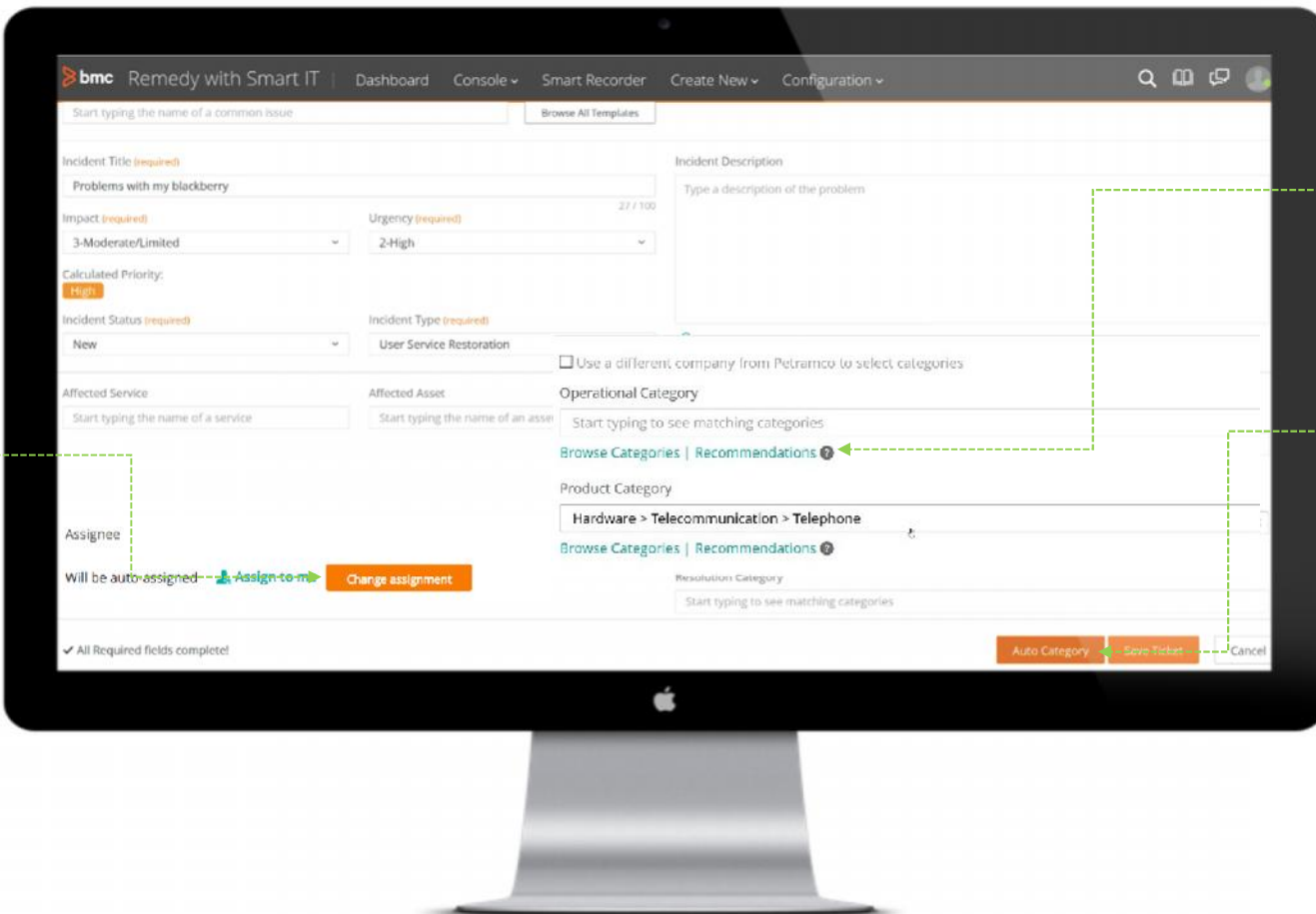Known error is matched
with a solution

AyTee suggests a solution

SAP IT

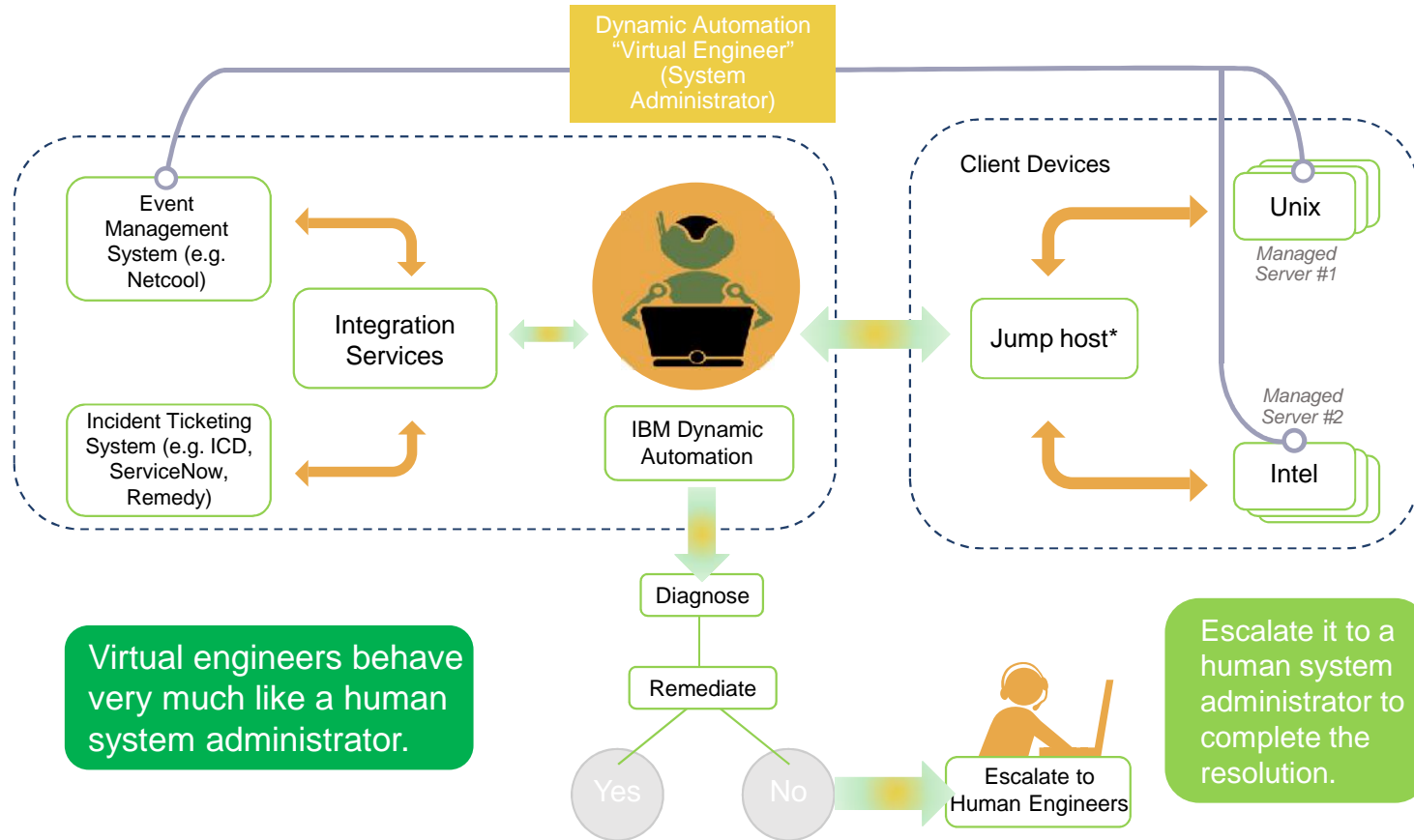Copyright@STKI_2018 Do not remove source or

Remedy Powered By Cognitive

Auto-Route incidents

Auto-Classify Incidents to specific product and ops categories for more accurate analytics

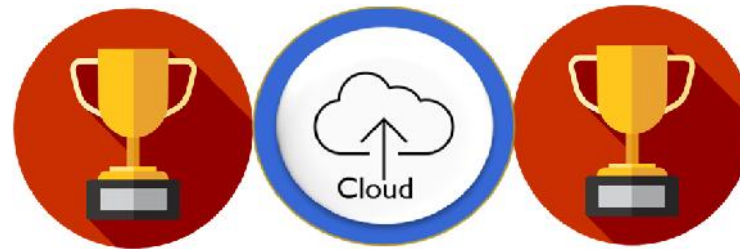Auto-assign the incident based on past assignments

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Dynamic Automation integrates into existing ITSM tools to automate use cases on platforms, database, middleware apps, network, and storage

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Dynamic Automation "Virtual Engineer" (System Administrator)

Event Management System (e.g. Netcool)

Integration Services

Incident Ticketing System (e.g. ICD, ServiceNow, Remedy)

IBM Dynamic Automation

Client Devices

Unix

Managed Server #1

Jump host*

Managed Server #2

Intel

Diagnose

Remediate

Yes   No

Escalate to Human Engineers

Virtual engineers behave very much like a human system administrator.

Escalate it to a human system administrator to complete the resolution.

zero ticketing

IBM Watson

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Cloud technologies and processes are part of ITaaS practice enabling true hybrid cloud

Focused, reliable, efficient, secure and responsive to business needs

Zero ticketing

Supporting development