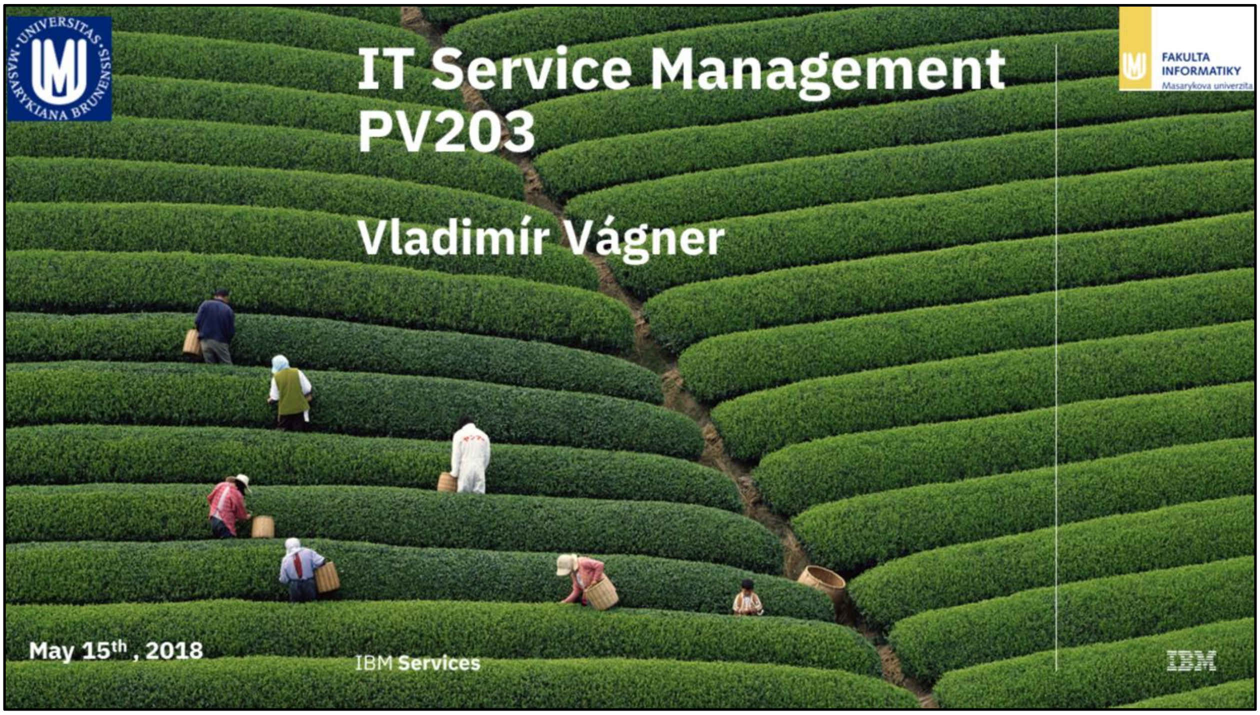


IT Service Management
PV203

Vladimír Vágner

FAKULTA INFORMATIKY
Masarykova univerzita

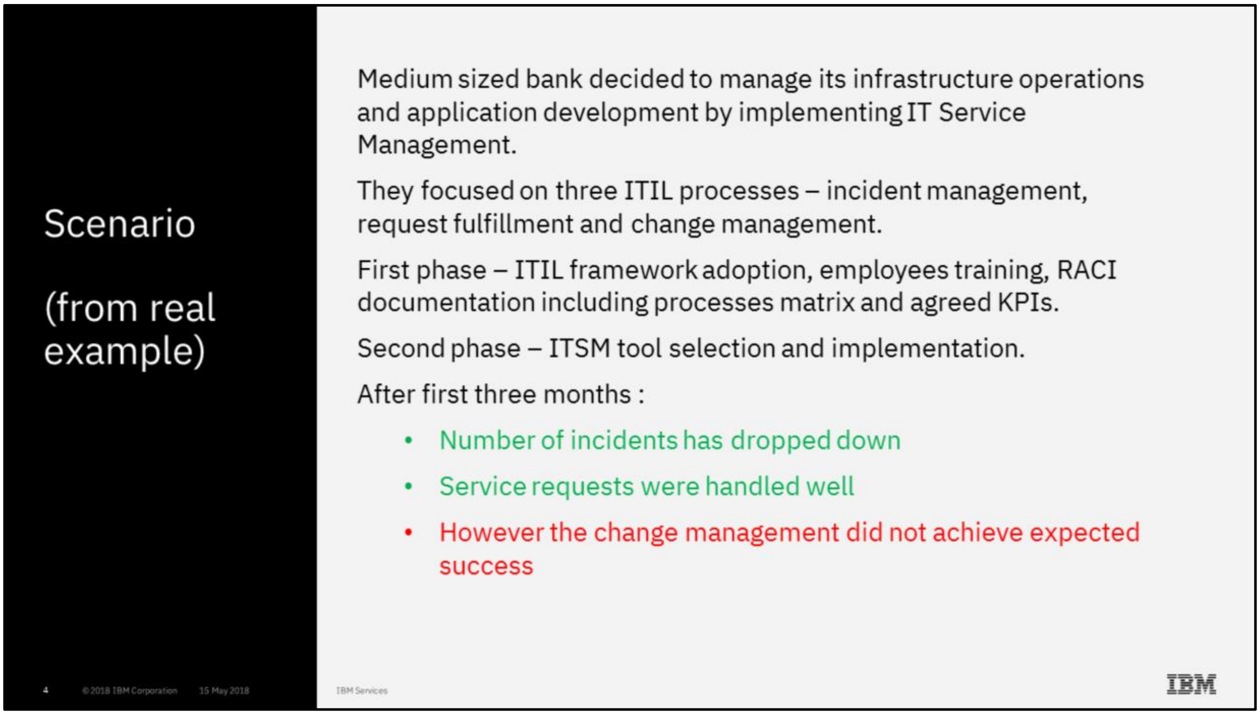
May 15th , 2018

IBM **Services**

ITSM in practice
-
tools, roles, process

Agenda

- Change management example
- ITSM tools
- RACI
- SLA



Scenario

(from real example)

Medium sized bank decided to manage its infrastructure operations and application development by implementing IT Service Management.

They focused on three ITIL processes – incident management, request fulfillment and change management.

First phase – ITIL framework adoption, employees training, RACI documentation including processes matrix and agreed KPIs.

Second phase – ITSM tool selection and implementation.

After first three months :

- Number of incidents has dropped down
- Service requests were handled well
- However the change management did not achieve expected success

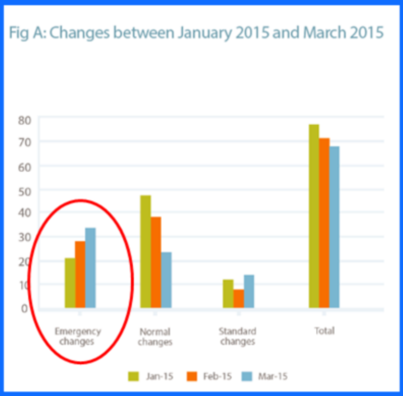


Fig A: Changes between January 2015 and March 2015

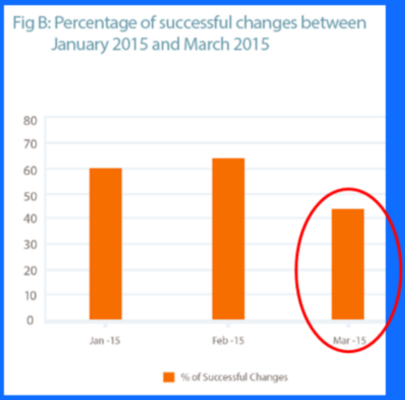
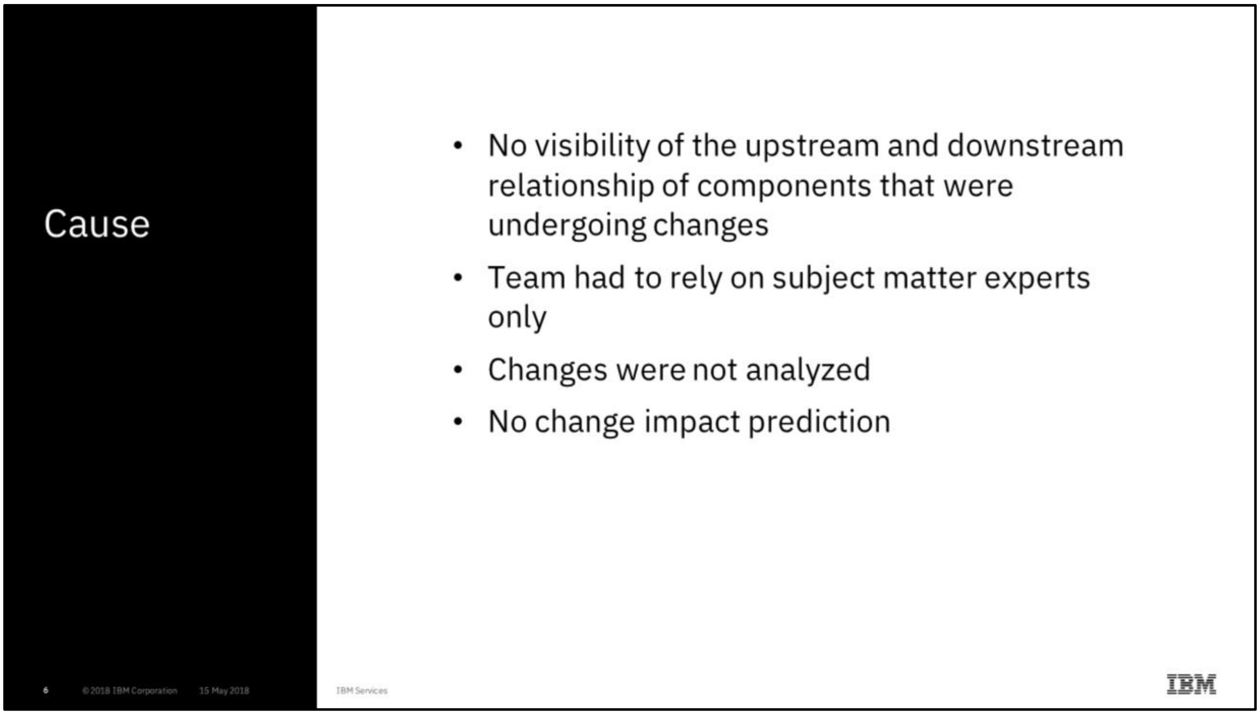


Fig B: Percentage of successful changes between January 2015 and March 2015

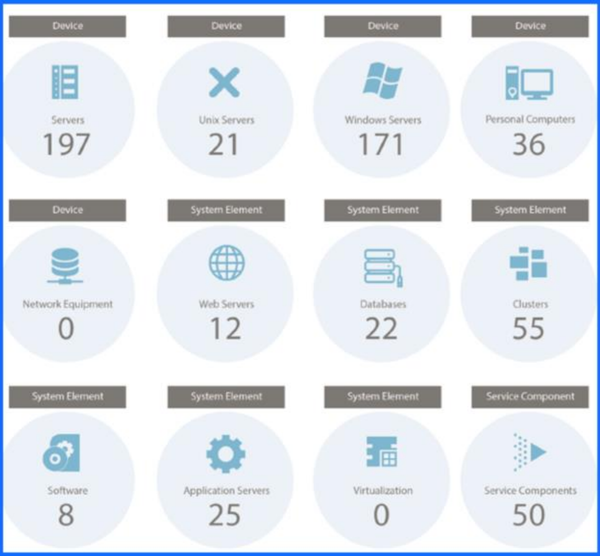


Cause

- No visibility of the upstream and downstream relationship of components that were undergoing changes
- Team had to rely on subject matter experts only
- Changes were not analyzed
- No change impact prediction

ACTIONS

The Configuration Management System based on CMDB



Device
Servers
197

Device
Unix Servers
21

Device
Windows Servers
171

Device
Personal Computers
36

Device
Network Equipment
0

System Element
Web Servers
12

System Element
Databases
22

System Element
Clusters
55

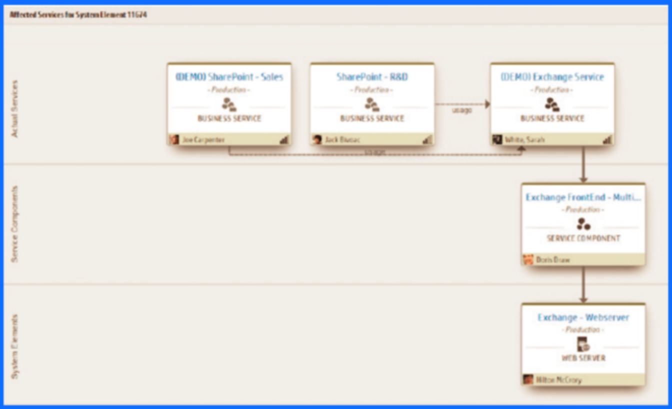
System Element
Software
8

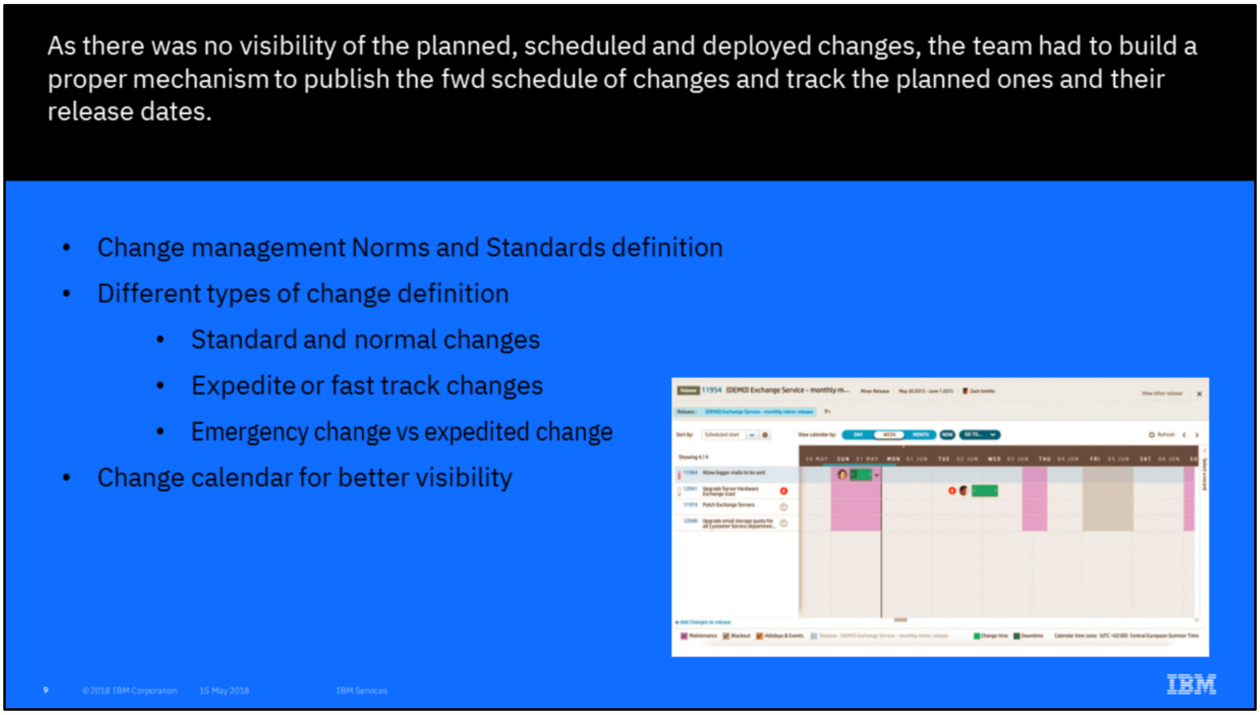
System Element
Application Servers
25

System Element
Virtualization
0

Service Component
Service Components
50

- List of critical business services
- The service tree structure build with embedded attributes for various devices
- Complete topology identification
- Import of technology tree with all devices attributes into the ITSM tool


Affected Services for System Element 11674
Actual Services
Service Components
System Elements
(DEMO) SharePoint - Sales
- Production -
BUSINESS SERVICE
Joe Carpenter
SharePoint - R&D
- Production -
BUSINESS SERVICE
Jack Bivoac
usage
(DEMO) Exchange Service
- Production -
BUSINESS SERVICE
White, Sarah
usage
Exchange FrontEnd - Multi...
- Production -
SERVICE COMPONENT
Doris Draw
Exchange - Webserver
- Production -
WEB SERVER
Milton McCrory



As there was no visibility of the planned, scheduled and deployed changes, the team had to build a proper mechanism to publish the fwd schedule of changes and track the planned ones and their release dates.

- Change management Norms and Standards definition
- Different types of change definition
    - Standard and normal changes
    - Expedite or fast track changes
    - Emergency change vs expedited change
- Change calendar for better visibility

Standard changes are low-risk, pre-approved changes that happen frequently and have a quick turnaround time. Standard changes can be implemented quickly and help manage risks.

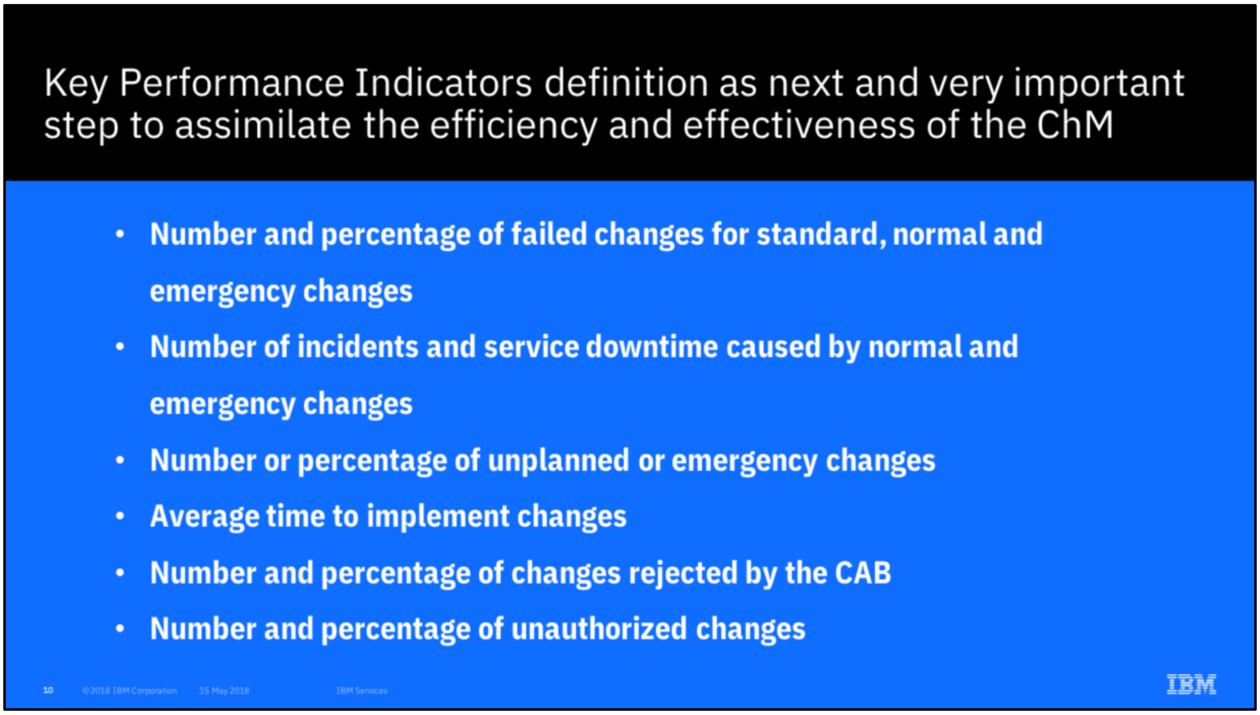
Examples of a standard change:
- Desktop or standalone equipment movement.
- A standard patch that is applied to the servers once a month during the agreed maintenance window.

What is a standard change?
When a normal change is successfully implemented a few times, the associated processes like planning, scheduling, and implementation are established and become predictable and controlled.
That is, the change becomes a routine task and therefore standard.
A few examples of normal changes:
• Upgrading the exchange server or any other hardware
• Setting up high availability or cluster for vital business functions (VBF)

- Roll out of a new release to address the reported issues

Expedite changes are raised due to a pressing need such as a legal or a business requirement.
These changes are not related to restoring a service.

The change advisory board (CAB) defined clear rules and regulations to qualify emergency and
expedited changes and communicated these rules across the organization.



Key Performance Indicators definition as next and very important step to assimilate the efficiency and effectiveness of the ChM

- **Number and percentage of failed changes for standard, normal and emergency changes**
- **Number of incidents and service downtime caused by normal and emergency changes**
- **Number or percentage of unplanned or emergency changes**
- **Average time to implement changes**
- **Number and percentage of changes rejected by the CAB**
- **Number and percentage of unauthorized changes**

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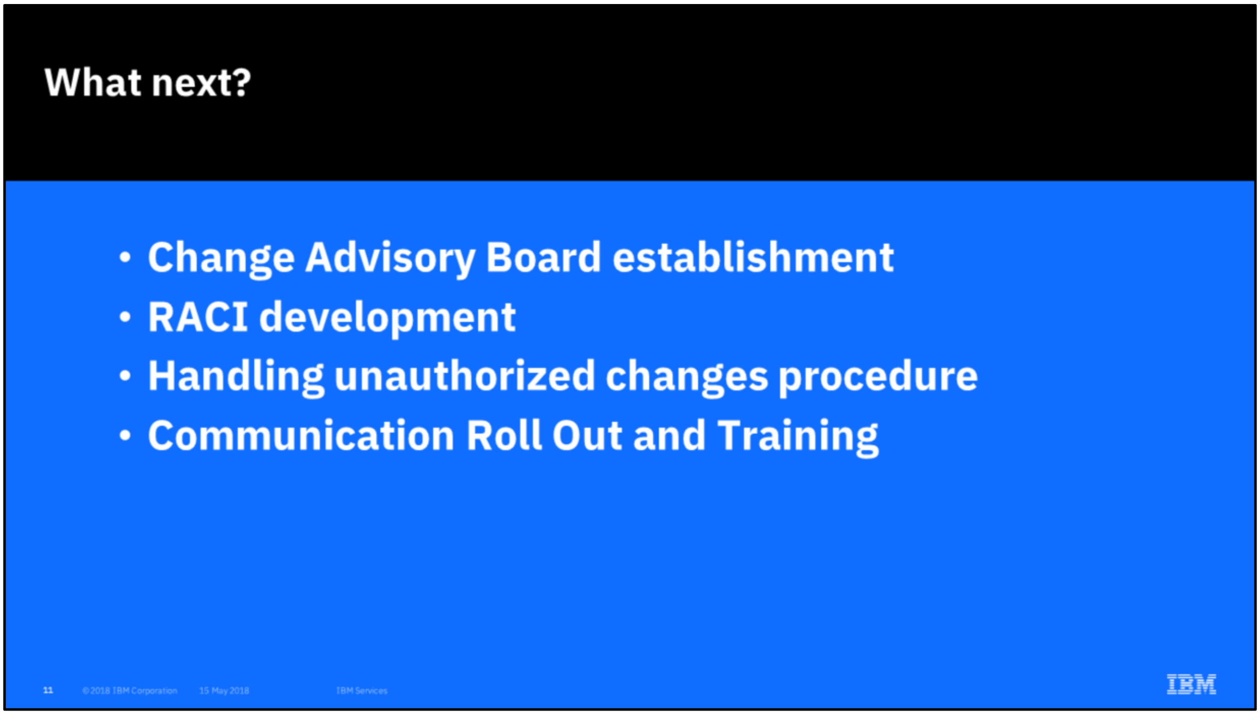


What next?

- Change Advisory Board establishment
- RACI development
- Handling unauthorized changes procedure
- Communication Roll Out and Training

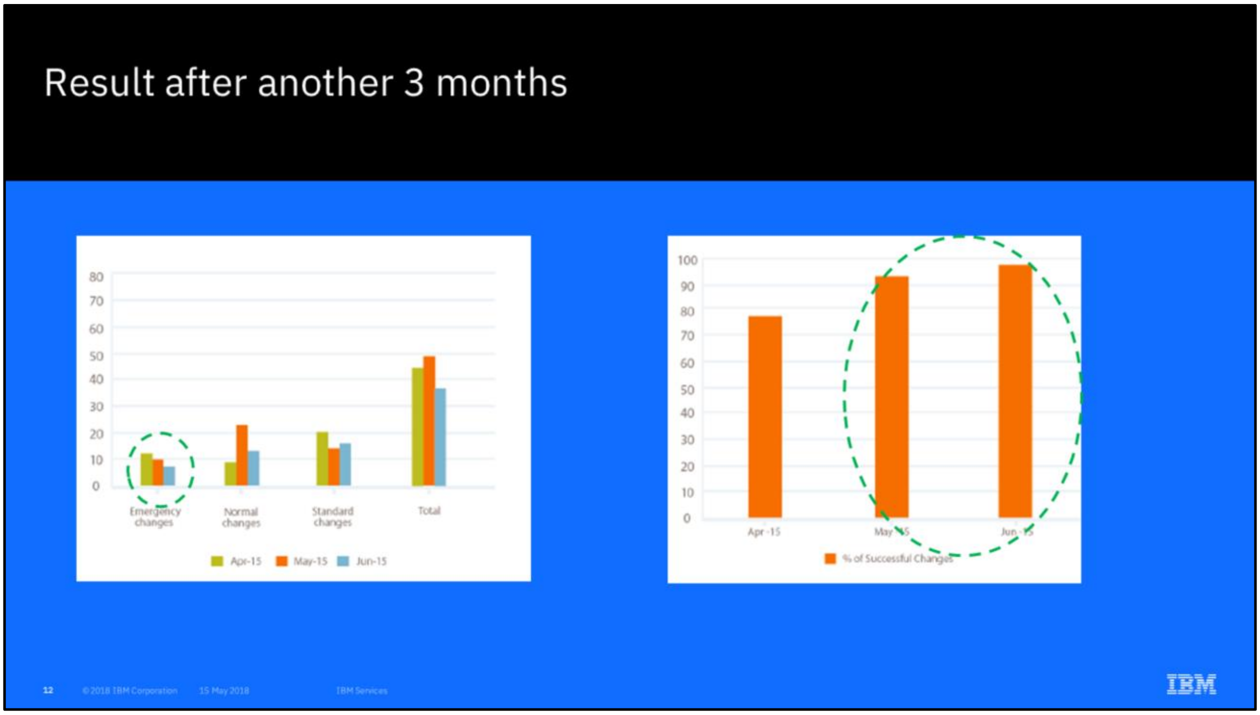
During its discussion with stakeholders, the core team observed that about 20% of the changes were completed without authorization, mainly because the infrastructure team was under pressure to get the changes done quickly. As a result, many changes were done without a request for change or going through the review and approval processes.

To deal with this situation, stage gatekeepers were appointed for infrastructure, application, and database teams to ensure that the steps were not skipped when a change is made. The stage keepers had a go-ready list that comprised the test results, approvals, signatures from all the concerned teams, and a back-out plan. In case of violation, the stage gatekeepers owned responsibility that affected their appraisal and performance measures.

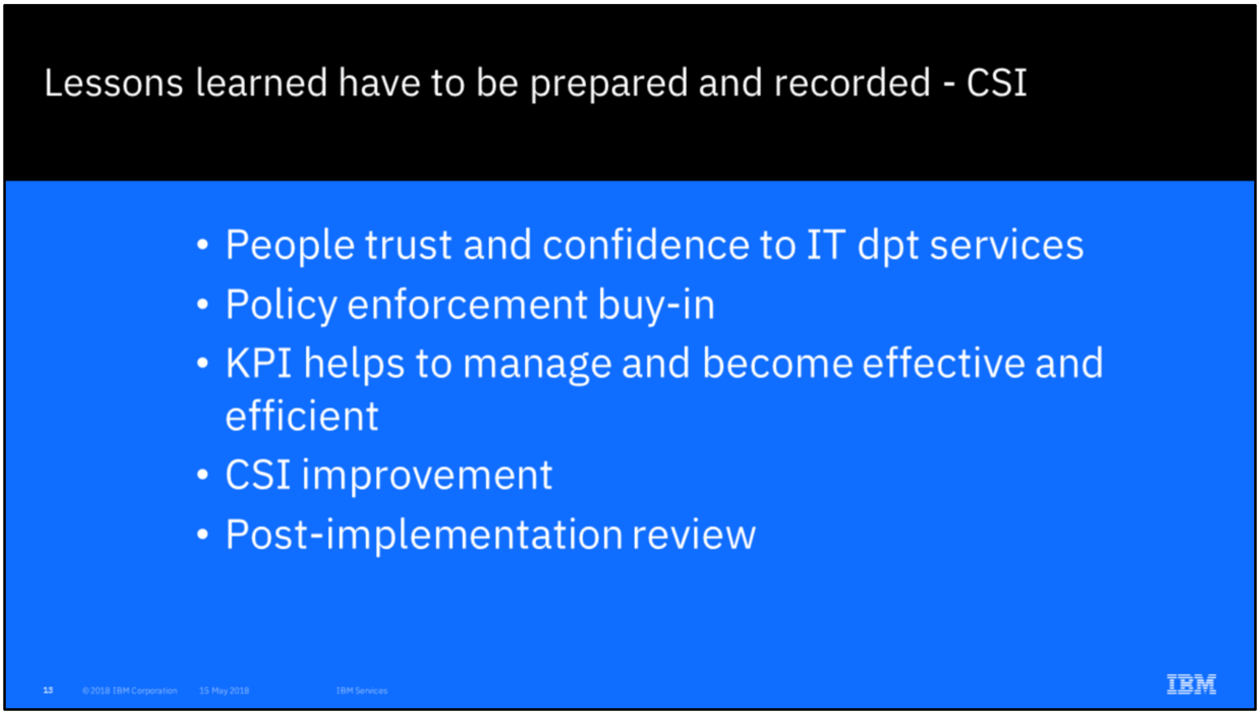
Another reason for the unauthorized changes was because the application teams updated the CMDB or CMS after the roll out of the release.

The core team ensured that audits were performed every week to compare the

current state of
CMS with the associated RFC and any deviation was highlighted to the CI owner and service owner
for immediate action. In turn, the service owner closed the loop and took firm action. This process
went on for four to six weeks, and the team made it a habit to follow the rule without exceptions.



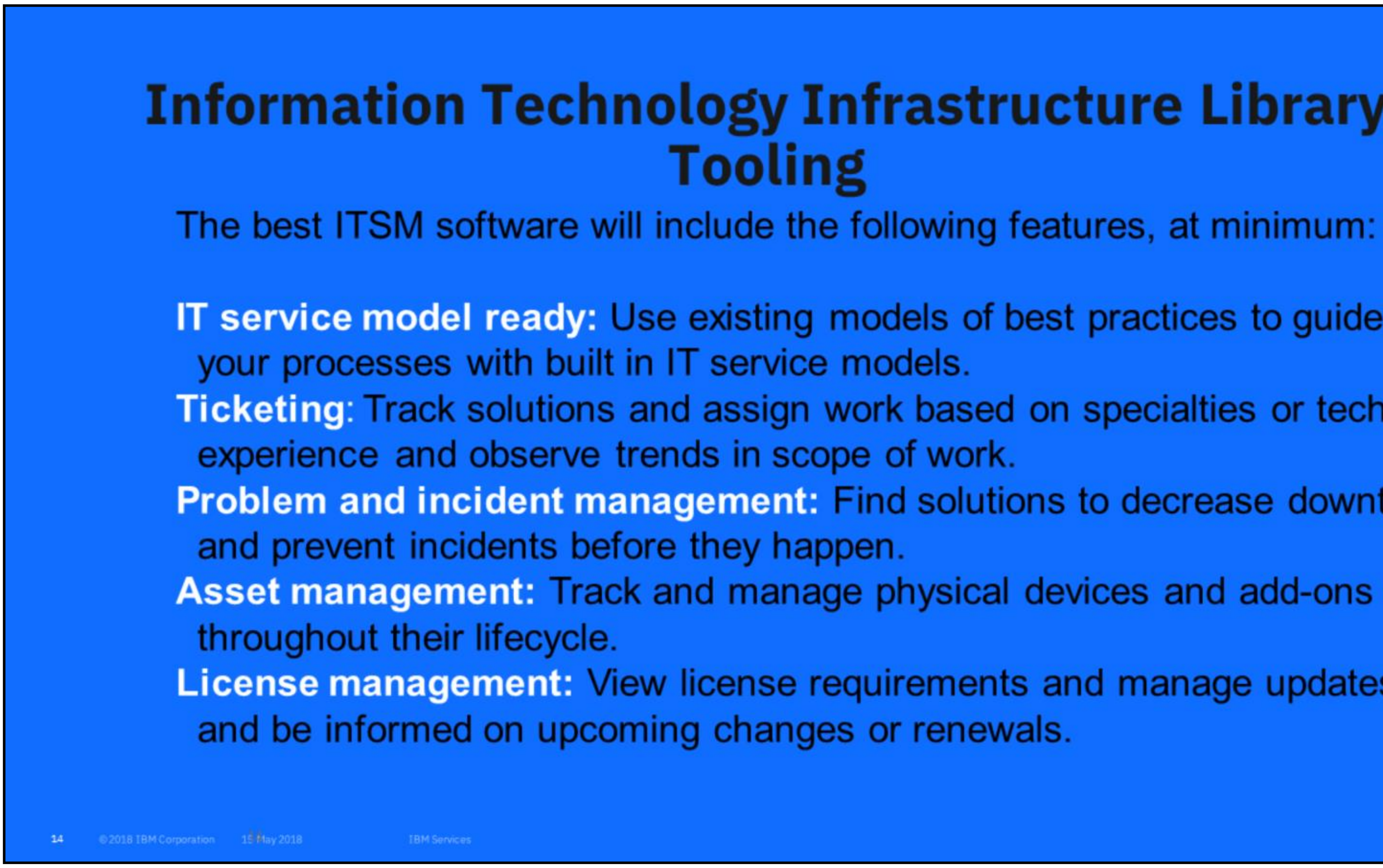
Result after another 3 months



Lessons learned have to be prepared and recorded - CSI

- People trust and confidence to IT dpt services
- Policy enforcement buy-in
- KPI helps to manage and become effective and efficient
- CSI improvement
- Post-implementation review

- The bank’s IT team understood that building a robust configuration management system with up-to-date information of all IT components is essential for a successful change and release management process.
- Forward schedule of changes, planned maintenance window, and release plans are critical to manage the volume and duration of changes and to ensure smooth deployment.
- Enforcing a policy requires practicality, diligence, and buy-in. The new policies were fewer in number but were important for the success of the change management process (for example: CAB, unauthorized changes, and PIR).
- Relevant and practical KPIs help teams become efficient and effective.
- Process and tools have to work in tandem and absence of one or the other will severely impact continual service improvement (CSI).
- Post-implementation review of key changes and implications provided valuable insight on potential areas to improve and control changes.



Information Technology Infrastructure Library Tooling

The best ITSM software will include the following features, at minimum:

IT service model ready: Use existing models of best practices to guide your processes with built in IT service models.

Ticketing: Track solutions and assign work based on specialties or tech experience and observe trends in scope of work.

Problem and incident management: Find solutions to decrease downt and prevent incidents before they happen.

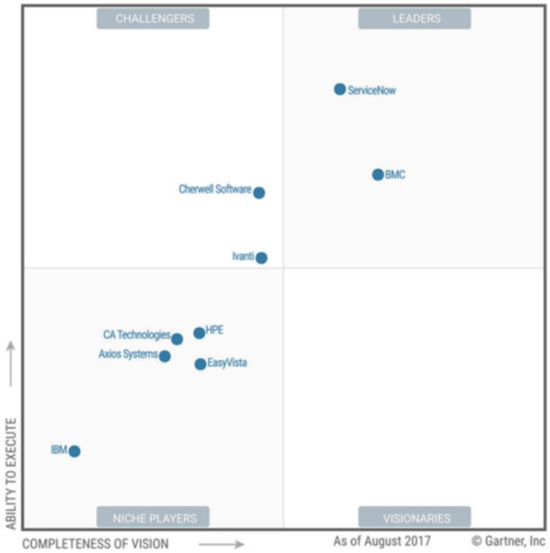
Asset management: Track and manage physical devices and add-ons throughout their lifecycle.

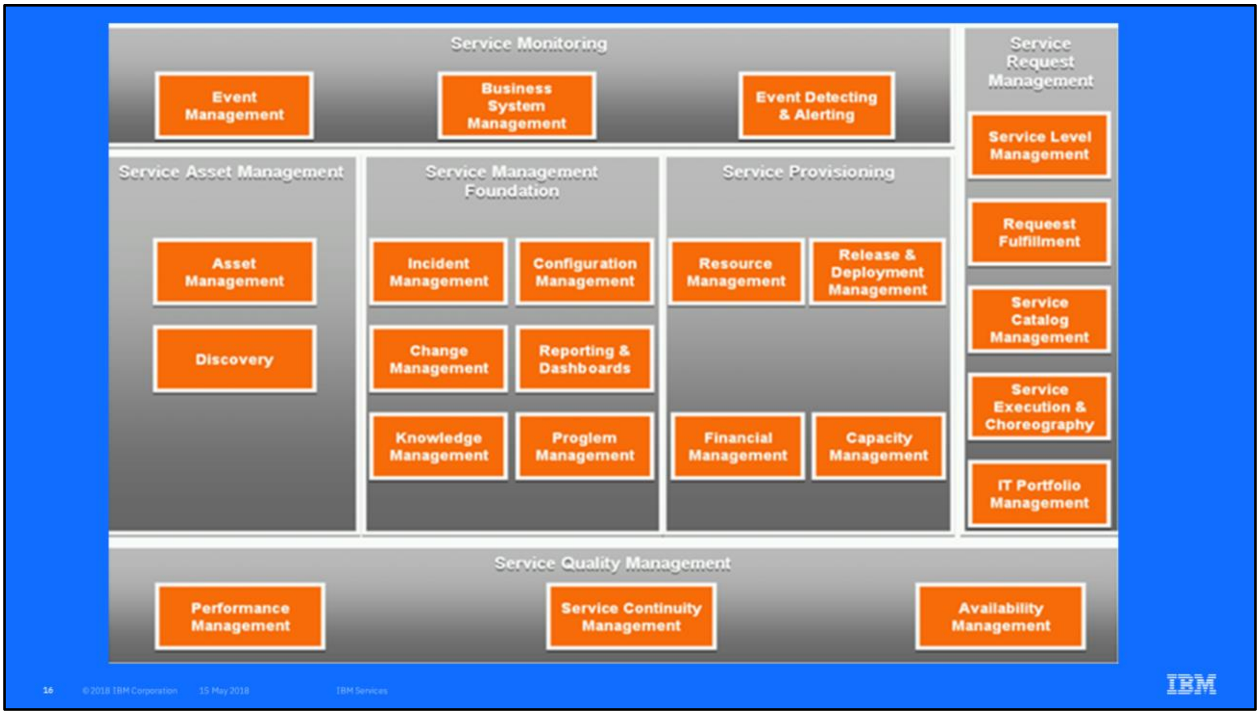
License management: View license requirements and manage update and be informed on upcoming changes or renewals.

Gartner's Magic Quadrant for ITSM tools

Magic Quadrant

Figure 1. Magic Quadrant for IT Service Management Tools





Service Monitoring

Event Management

Business System Management

Event Detecting & Alerting

Service Request Management

Service Level Management

Requeest Fulfillment

Service Catalog Management

Service Execution & Choreography

IT Portfolio Management

Service Asset Management

Asset Management

Discovery

Service Management Foundation

Incident Management

Configuration Management

Change Management

Reporting & Dashboards

Knowledge Management

Proglem Management

Service Provisioning

Resource Management

Release & Deployment Management

Financial Management

Capacity Management

Service Quality Management

Performance Management

Service Continuity Management

Availability Management

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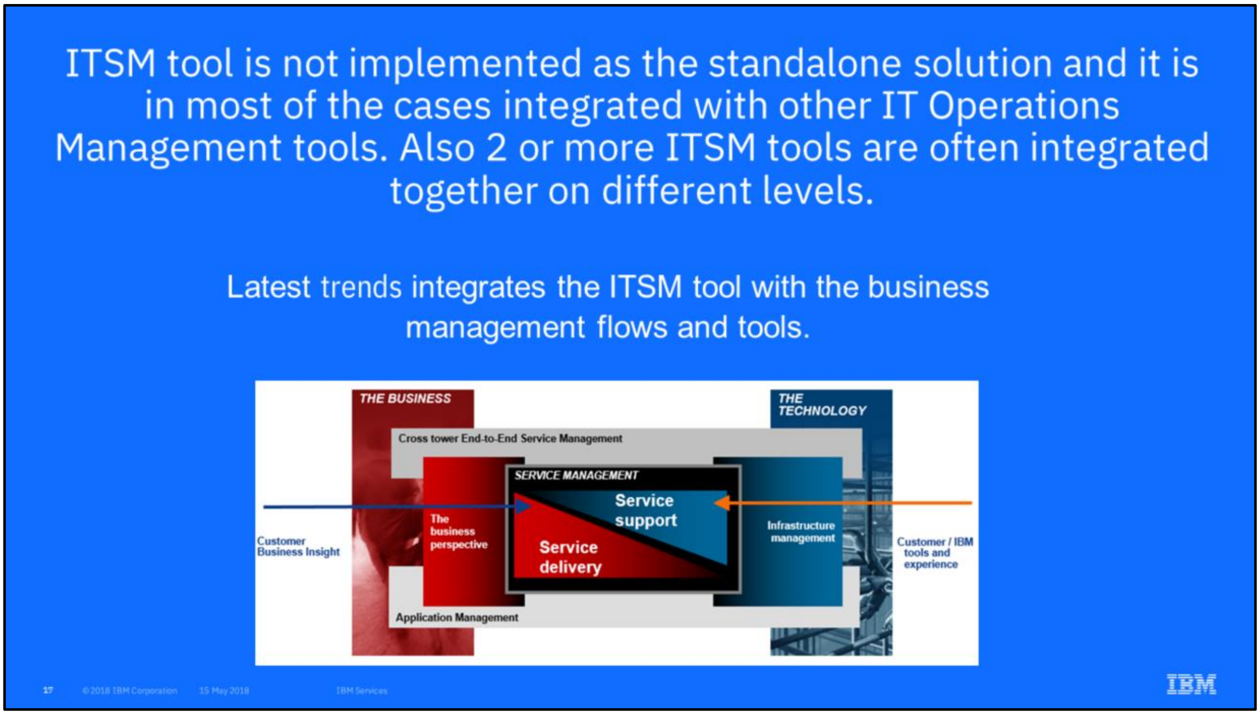
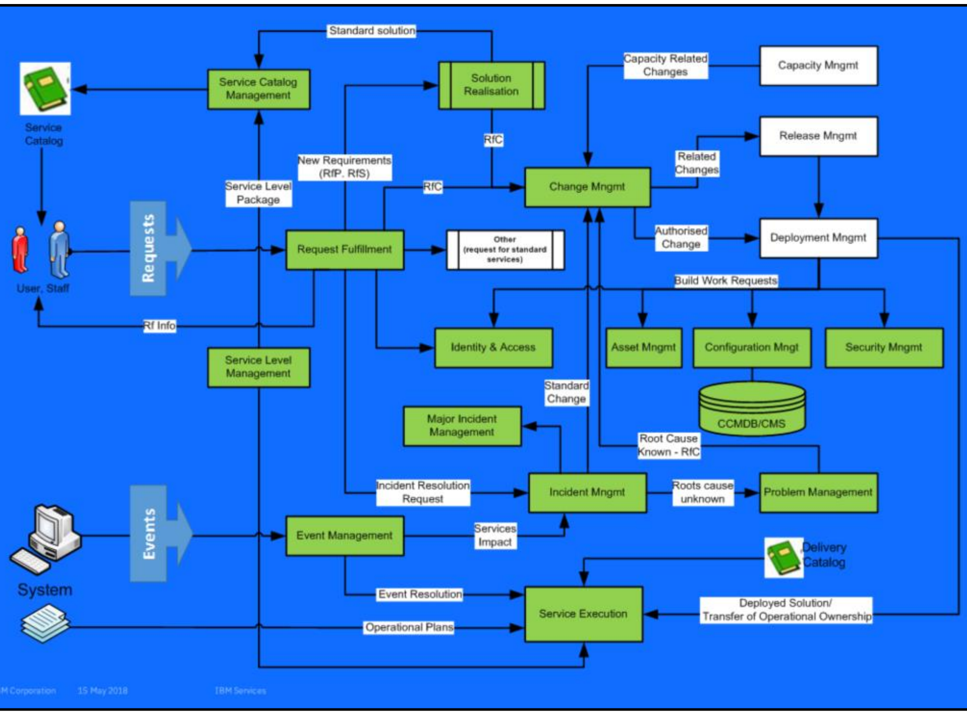


ITSM tool is not implemented as the standalone solution and it is in most of the cases integrated with other IT Operations Management tools. Also 2 or more ITSM tools are often integrated together on different levels.

Latest trends integrates the ITSM tool with the business management flows and tools.

THE BUSINESS
THE TECHNOLOGY
Cross tower End-to-End Service Management
SERVICE MANAGEMENT
Service support
The business perspective
Service delivery
Infrastructure management
Customer Business Insight
Customer / IBM tools and experience
Application Management



Standard solution

Service Catalog Management

Solution Realisation

Capacity Related Changes

Capacity Mngmt

Service Catalog

RfC

Release Mngmt

New Requirements (RfP. RfS)

Service Level Package

RfC

Change Mngmt

Related Changes

Requests

Request Fulfillment

Other (request for standard services)

Authorised Change

Deployment Mngmt

User, Staff

Build Work Requests

Rf Info

Identity & Access

Asset Mngmt

Configuration Mngt

Security Mngmt

Service Level Management

Standard Change

CCMDB/CMS

Major Incident Management

Root Cause Known - RfC

Incident Resolution Request

Incident Mngmt

Roots cause unknown

Problem Management

Events

Event Management

Services Impact

Delivery Catalog

System

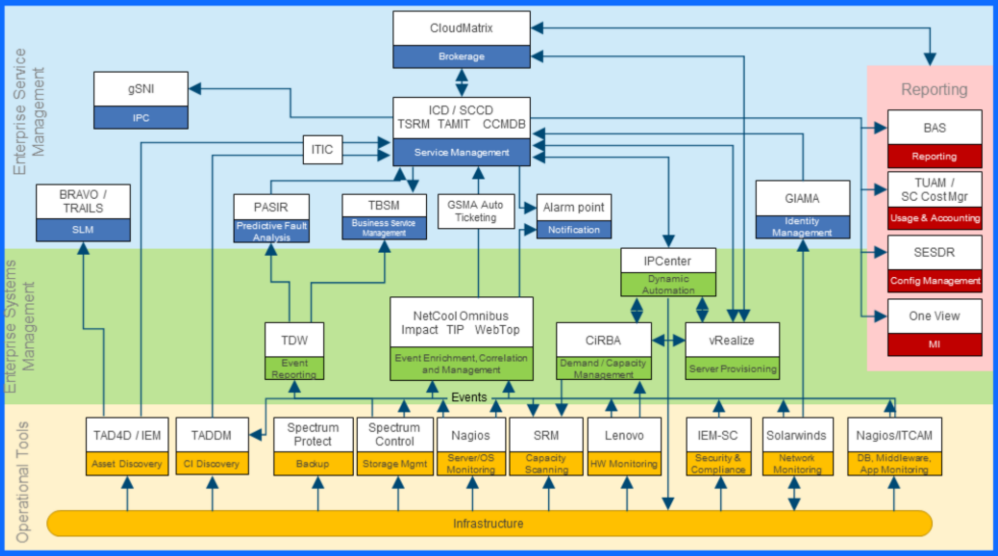
Event Resolution

Service Execution

Deployed Solution/ Transfer of Operational Ownership

Operational Plans

Integrated Service management Tooling - example



Enterprise Service Management

CloudMatrix
Brokerage

gSNI
IPC

ICD / SCCD
TSRM TAMIT CCMDB
Service Management

ITIC

BRAVO / TRAILS
SLM

PASIR
Predictive Fault Analysis

TBSM
Business Service Management

GSMA Auto Ticketing

Alarm point
Notification

GIAMA
Identity Management

Reporting

BAS
Reporting

TUAM / SC Cost Mgr
Usage & Accounting

SESDR
Config Management

One View
MI

Enterprise Systems Management

IPCenter
Dynamic Automation

TDW
Event Reporting

NetCool Omnibus
Impact TIP WebTop
Event Enrichment, Correlation and Management

CiRBA
Demand / Capacity Management

vRealize
Server Provisioning

Events

Operational Tools

TAD4D / IEM
Asset Discovery

TADDM
CI Discovery

Spectrum Protect
Backup

Spectrum Control
Storage Mgmt

Nagios
Server/OS Monitoring

SRM
Capacity Scanning

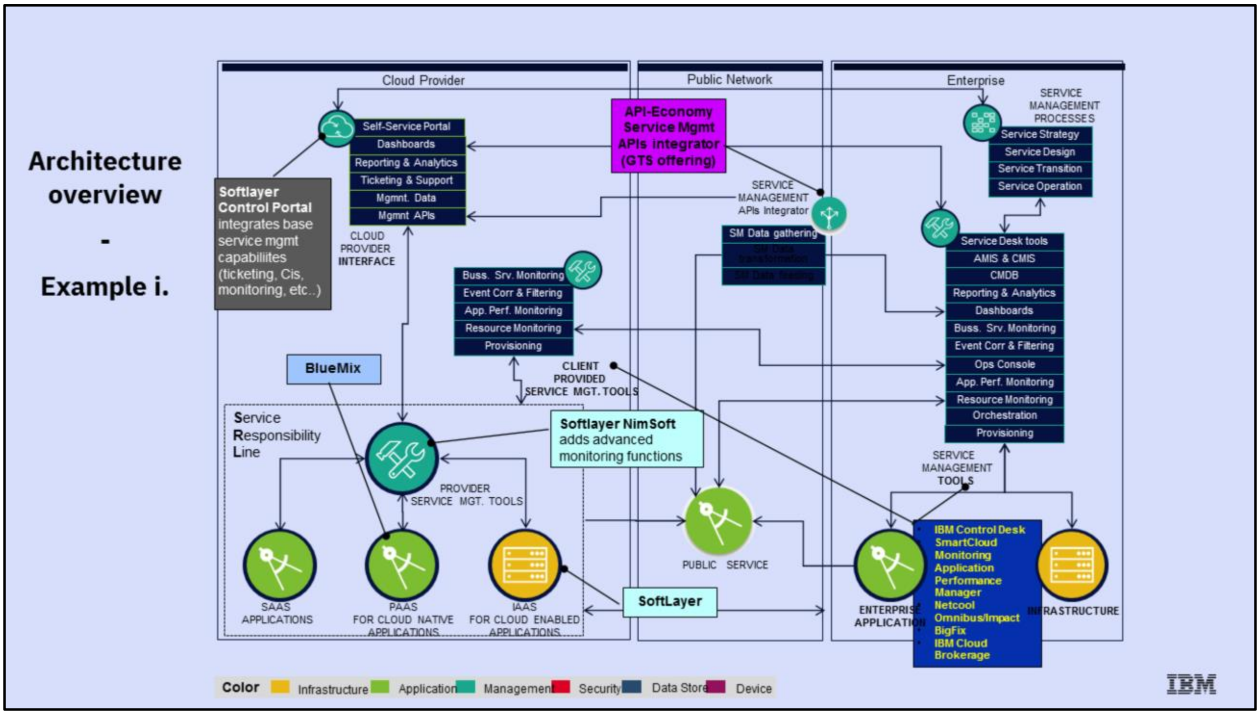
Lenovo
HW Monitoring

IEM-SC
Security & Compliance

Solarwinds
Network Monitoring

Nagios/ITCAM
DB, Middleware, App Monitoring

Infrastructure



Architecture overview

-

Example i.

Cloud Provider

Public Network

Enterprise

Softlayer Control Portal integrates base service mgmt capabiliites (ticketing, Cis, monitoring, etc..)

Self-Service Portal
Dashboards
Reporting & Analytics
Ticketing & Support
Mgmnt. Data
Mgmnt APIs

CLOUD PROVIDER **INTERFACE**

API-Economy Service Mgmt APIs integrator (GTS offering)

SERVICE MANAGEMENT APIs Integrator

SM Data gathering
SM Data transformation
SM Data loading

Buss. Srv. Monitoring
Event Corr & Filtering
App. Perf. Monitoring
Resource Monitoring
Provisioning

BlueMix

CLIENT PROVIDED SERVICE MGT. TOOLS

Service **R**esponsibility **L**ine

Softlayer NimSoft adds advanced monitoring functions

PROVIDER SERVICE MGT. TOOLS

SAAS APPLICATIONS

PAAS FOR CLOUD NATIVE APPLICATIONS

IAAS FOR CLOUD ENABLED APPLICATIONS

SoftLayer

PUBLIC SERVICE

SERVICE MANAGEMENT PROCESSES

Service Strategy
Service Design
Service Transition
Service Operation

Service Desk tools
AMIS & CMIS
CMDB
Reporting & Analytics
Dashboards
Buss. Srv. Monitoring
Event Corr & Filtering
Ops Console
App. Perf. Monitoring
Resource Monitoring
Orchestration
Provisioning

SERVICE MANAGEMENT **TOOLS**

- **IBM Control Desk**
- **SmartCloud Monitoring Application Performance Manager**
- **Netcool Omnibus/Impact**
- **BigFix**
- **IBM Cloud Brokerage**

ENTERPRISE APPLICATION

INFRASTRUCTURE

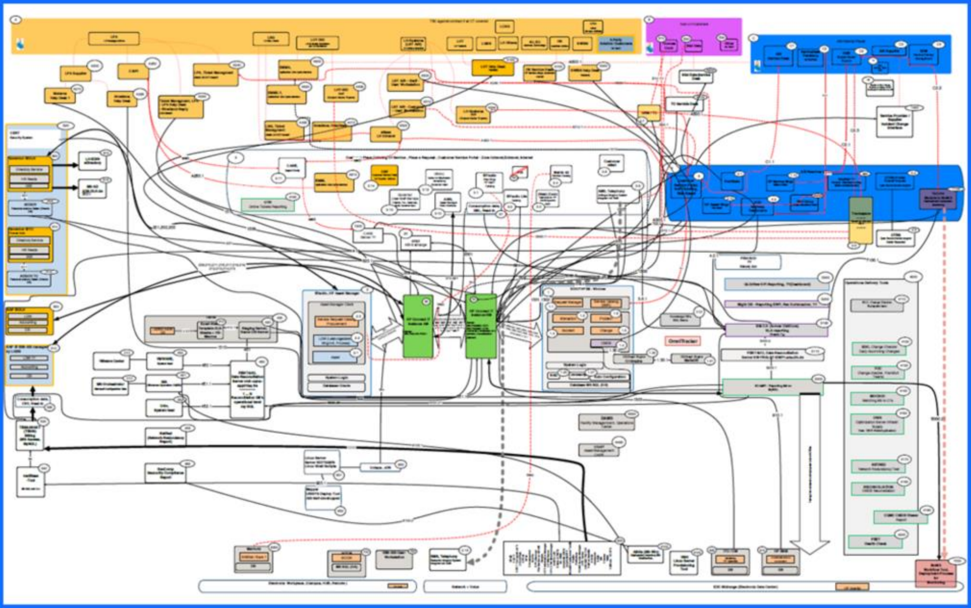
Color 🟨 Infrastructure 🟩 Application 🟩 Management 🟥 Security ■ Data Store ■ Device

IBM

Architecture overview

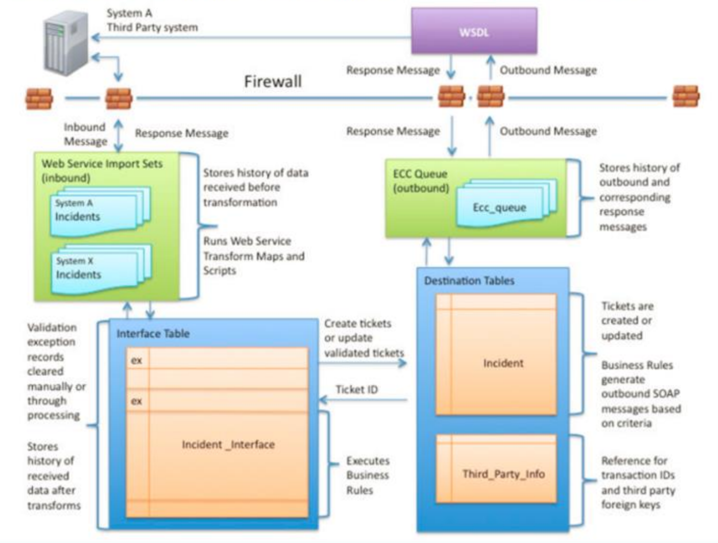
-

Example ii.



General example of the tooling integration – ticketing

Bi-directional ticketing integration using import sets and the ECC queue


System A
Third Party system
WSDL
Firewall
Response Message
Outbound Message
Inbound Message
Response Message
Response Message
Outbound Message
Web Service Import Sets (inbound)
System A Incidents
System X Incidents
ECC Queue (outbound)
Ecc_queue
Destination Tables
Incident
Third_Party_Info
Interface Table
ex
ex
Incident _Interface
Ticket ID

Stores history of data received before transformation

Runs Web Service Transform Maps and Scripts

Stores history of outbound and corresponding response messages

Validation exception records cleared manually or through processing

Stores history of received data after transforms

Create tickets or update validated tickets

Executes Business Rules

Tickets are created or updated

Business Rules generate outbound SOAP messages based on criteria

Reference for transaction IDs and third party foreign keys

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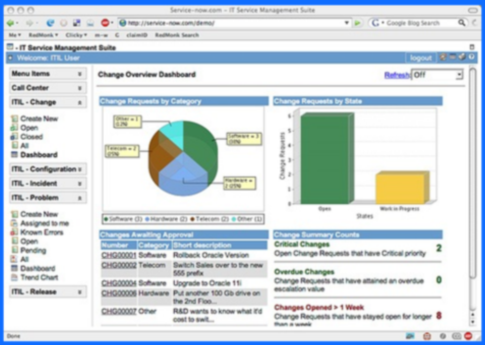
ITSM Tools example – BMC Remedy


Service-now.com – IT Service Management Suite
http://service-now.com/demo/
Google Blog Search
Me
RedMonk
Clicky
m-w
claimID
RedMonk Search
- IT Service Management Suite
Welcome: ITIL User
logout
Menu Items
Call Center
ITIL - Change
Create New
Open
Closed
All
Dashboard
ITIL - Configuration
ITIL - Incident
ITIL - Problem
Create New
Assigned to me
Known Errors
Open
Pending
All
Dashboard
Trend Chart
ITIL - Release
Refresh: Off
Change Requests by Category
Other = 1
Software = 3
Telecom = 2
Hardware = 2 (25%)
Software (3)
Hardware (2)
Telecom (2)
Other (1)
Change Requests by State
Change Requests
0
1
2
3
4
5
6
Open
Work in Progress
States
Done

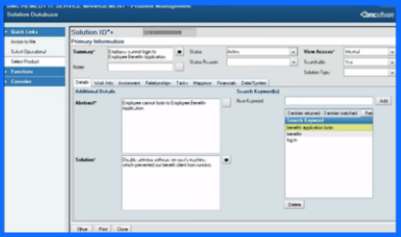
Change Overview Dashboard

Changes Awaiting Approval

Number	Category	Short description
CHG00001	Software	Rollback Oracle Version
CHG00002	Telecom	Switch Sales over to the new 555 prefix
CHG00004	Software	Upgrade to Oracle 11i
CHG00006	Hardware	Put another 100 Gb drive on the 2nd Floo...
CHG00007	Other	R&D wants to know what it'd cost to swit...

Change Summary Counts

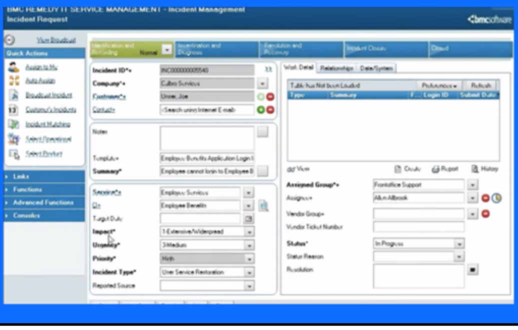
Critical Changes Open Change Requests that have Critical priority	2
Overdue Changes Change Requests that have attained an overdue escalation value	0
Changes Opened > 1 Week Change Requests that have stayed open for longer than a week	8


Solution Database
bmcsoftware
Quick Links
Select Product
Functions
Consoles
Solution ID*+
Primary Information
Details
Additional Details
Search Keyword(s)
Search Keyword
Add
Delete
Print
Close

Summary*

Abstract*

Solution*


BMC REMEDY IT SERVICE MANAGEMENT – Incident Management
Incident Request
bmcsoftware
Quick Actions
Links
Functions
Advanced Functions
Consoles
Normal
Investigation and Diagnosis
Relationships
Date/System
Type
Summary
Login ID
View
Report
History

Incident ID*+	INC000000005540
Summary*	Employee cannot login to Employee B
Impact*	1-Extensive/Widespread
Urgency*	3-Medium
Incident Type*	User Service Restoration
Reported Source	
Assigned Group*+	Frontoffice Support
Vendor Group+	
Status*	In Progress
Status Reason	

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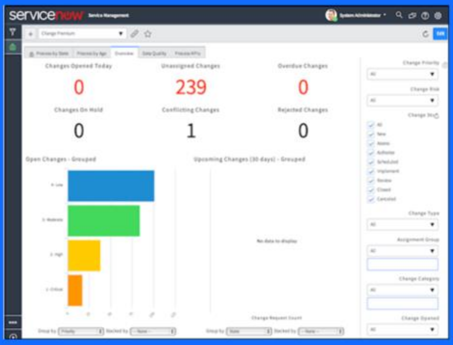
ITSM Tools example – Service Now


servicenow
Service Management
System Administrator
Change Premium
Overview
Change Priority
Change Risk
Change Type
Assignment Group
Change Category
Change Opened
Open Changes - Grouped
4 - Low
3 - Moderate
2 - High
1 - Critical
Upcoming Changes (30 days) - Grouped
No data to display
Change Request Count
Group by
Stacked by

Changes Opened Today 0

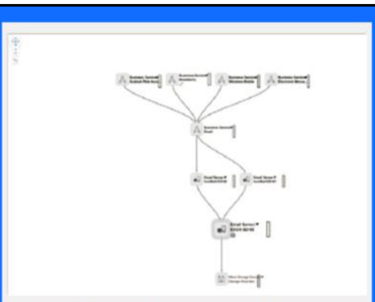
Unassigned Changes 239

Overdue Changes 0

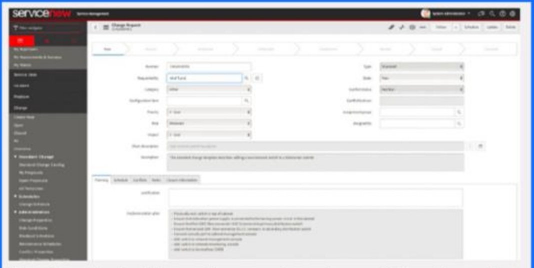
Changes On Hold 0

Conflicting Changes 1

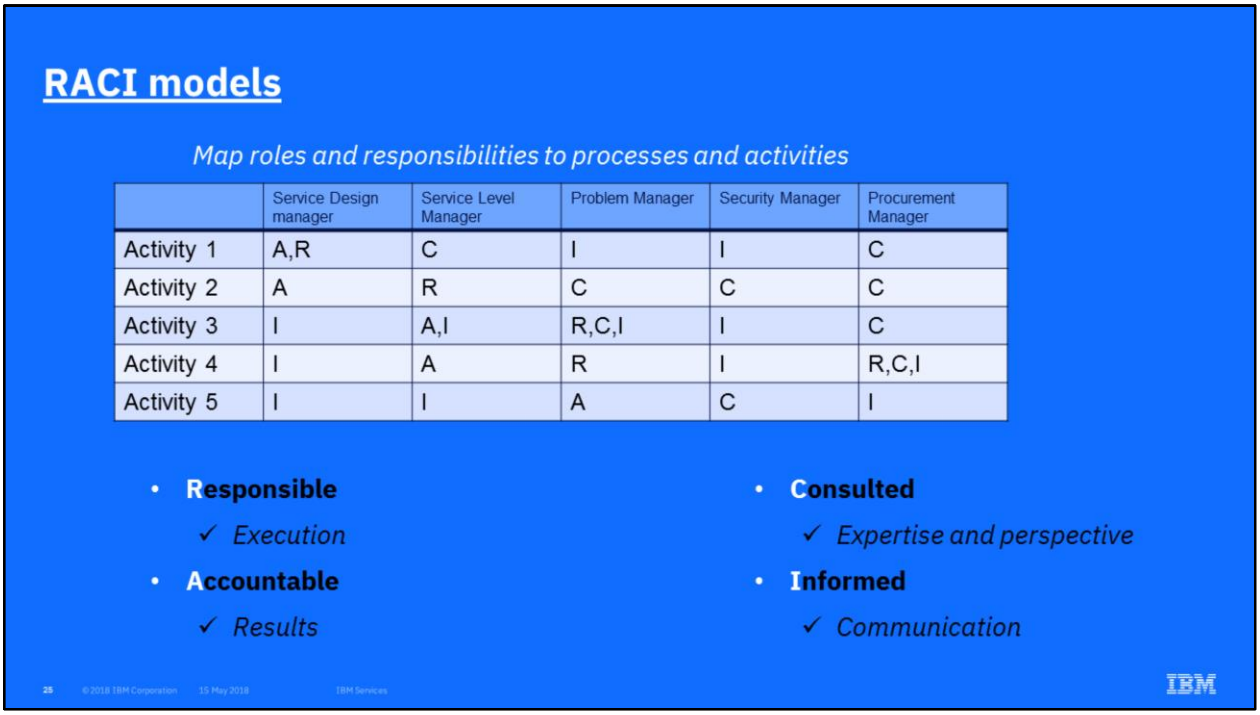
Rejected Changes 0



Business Service Management Map shows how proposed change impacts related CIs


servicenow
Service Management
Change Request

Proposing a standard change with approved procedures and information pre-fille

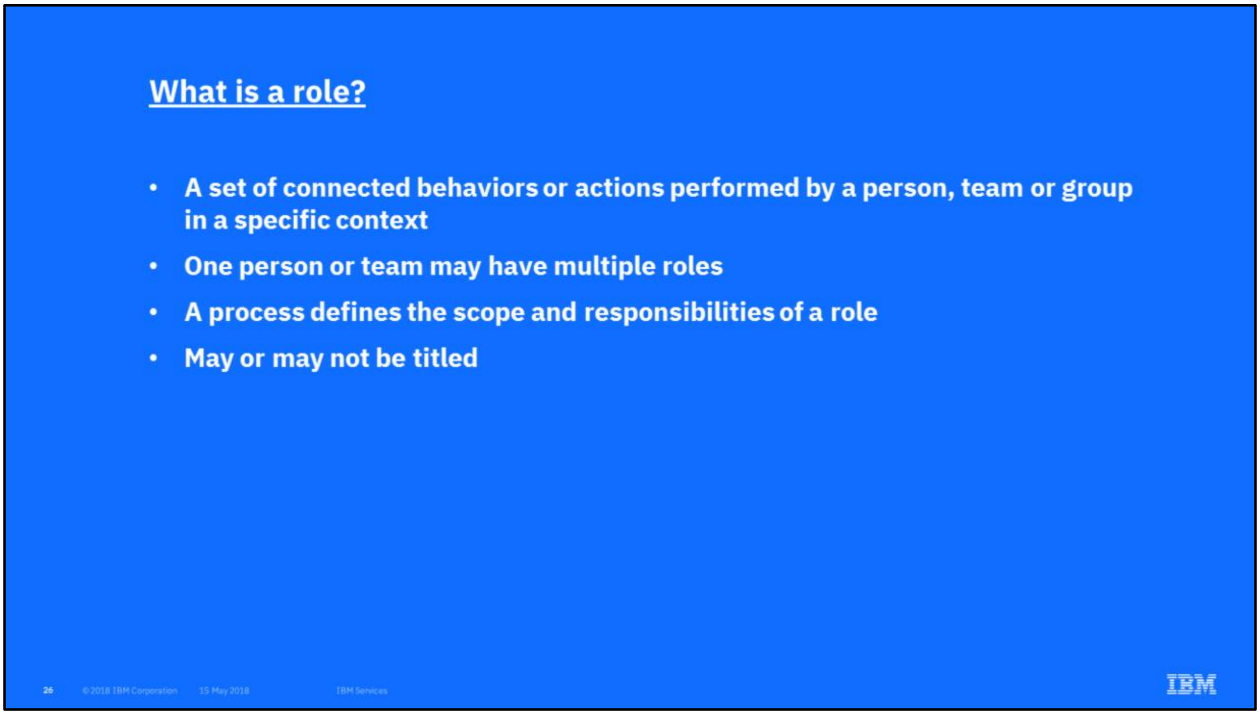


RACI models

Map roles and responsibilities to processes and activities

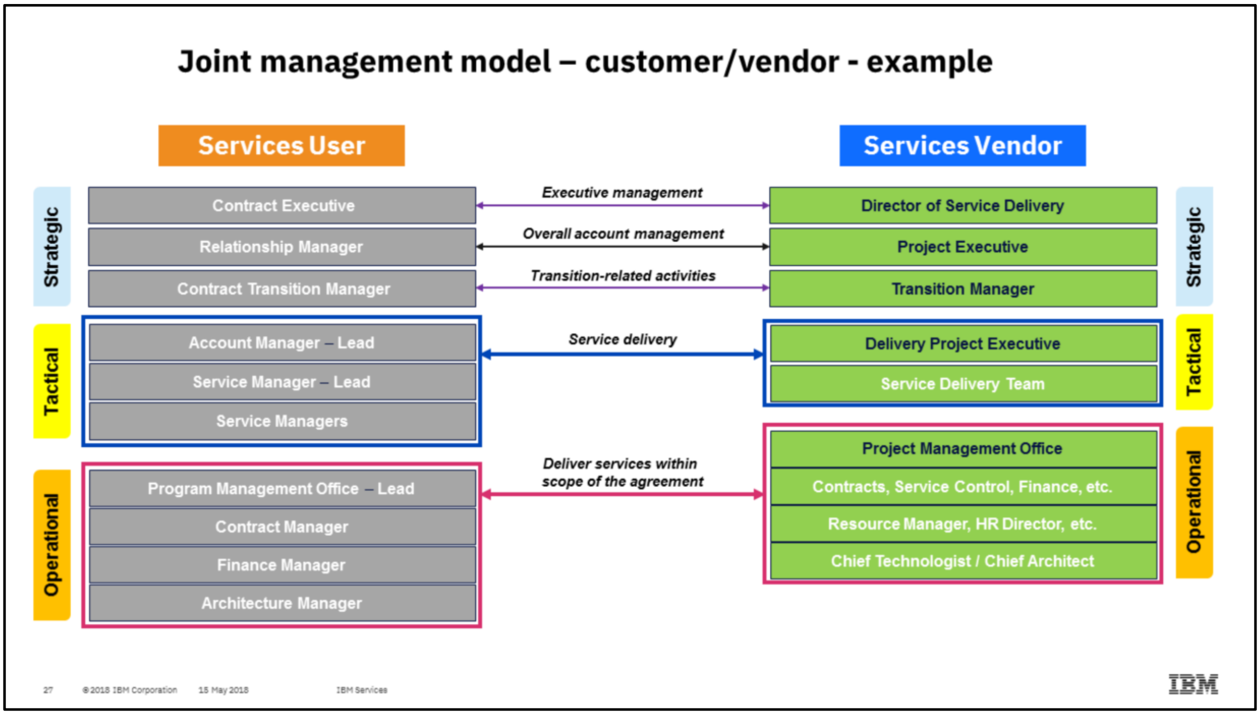
	Service Design manager	Service Level Manager	Problem Manager	Security Manager	Procurement Manager
Activity 1	A,R	C	I	I	C
Activity 2	A	R	C	C	C
Activity 3	I	A,I	R,C,I	I	C
Activity 4	I	A	R	I	R,C,I
Activity 5	I	I	A	C	I

- **Responsible**
  - ✓ *Execution*
- **Accountable**
  - ✓ *Results*
- **Consulted**
  - ✓ *Expertise and perspective*
- **Informed**
  - ✓ *Communication*



What is a role?

- A set of connected behaviors or actions performed by a person, team or group in a specific context
- One person or team may have multiple roles
- A process defines the scope and responsibilities of a role
- May or may not be titled



Joint management model – customer/vendor - example

Services User

Services Vendor

Strategic

Contract Executive

Executive management

Director of Service Delivery

Relationship Manager

Overall account management

Project Executive

Contract Transition Manager

Transition-related activities

Transition Manager

Strategic

Tactical

Account Manager – Lead

Service Manager – Lead

Service Managers

Service delivery

Delivery Project Executive

Service Delivery Team

Tactical

Operational

Program Management Office – Lead

Contract Manager

Finance Manager

Architecture Manager

Deliver services within scope of the agreement

Project Management Office

Contracts, Service Control, Finance, etc.

Resource Manager, HR Director, etc.

Chief Technologist / Chief Architect

Operational

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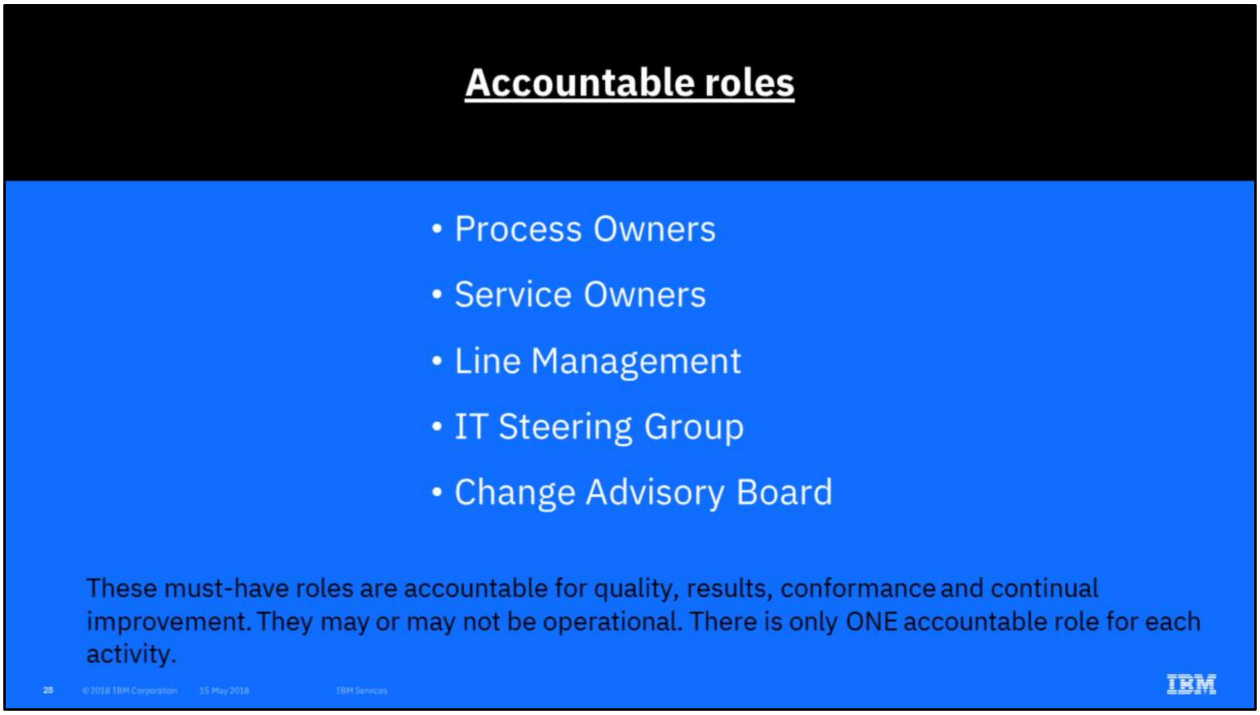
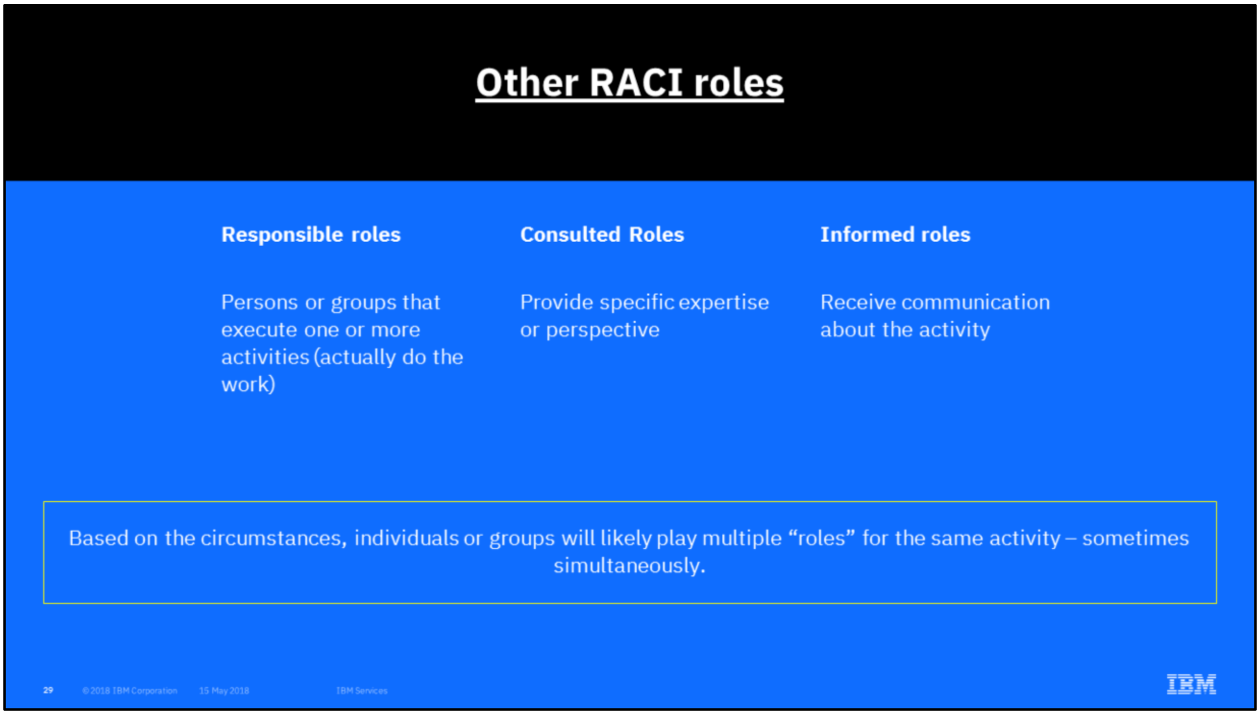


Accountable roles

- Process Owners
- Service Owners
- Line Management
- IT Steering Group
- Change Advisory Board

These must-have roles are accountable for quality, results, conformance and continual improvement. They may or may not be operational. There is only ONE accountable role for each activity.



Other RACI roles

Responsible roles

Persons or groups that execute one or more activities (actually do the work)

Consulted Roles

Provide specific expertise or perspective

Informed roles

Receive communication about the activity

Based on the circumstances, individuals or groups will likely play multiple “roles” for the same activity – sometimes simultaneously.

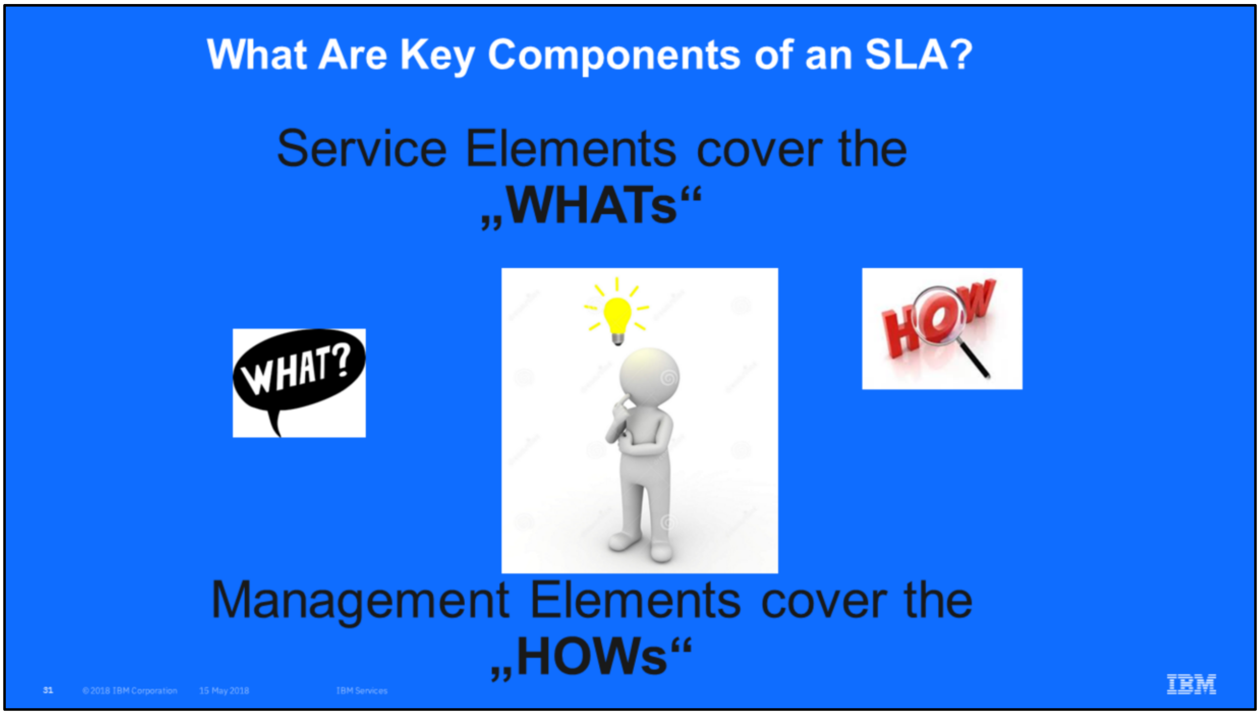
What is the Service Level Agreement (SLA)

An SLA is a negotiated agreement between two or more parties designed to create a common understanding about the service.

It is :

- ❖A communication tool
- ❖A conflict resolution tool
- ❖A living document
- ❖A method for gauging service efectivness

SCHEDULE F – SERVICE MONITORING AND PERFORMANCE MEASUREMENT



What Are Key Components of an SLA?

Service Elements cover the
„WHATs“

Management Elements cover the
„HOWs“

What Are Key Components of an SLA?

The SLA should include components in two areas: services and management.

Service elements include specifics of services provided (and what's excluded, if there's room for doubt), conditions of service availability, standards such as time window for each level of service (prime time and non-prime time may have different service levels, for example), responsibilities of each party, escalation procedures, and cost/service tradeoffs.

Management elements should include definitions of measurement standards and methods, reporting process, contents and frequency, a dispute resolution process, an indemnification clause protecting the customer from third-party litigation resulting from service level breaches (this should already be covered in the contract, however), and a mechanism for updating the agreement as required.

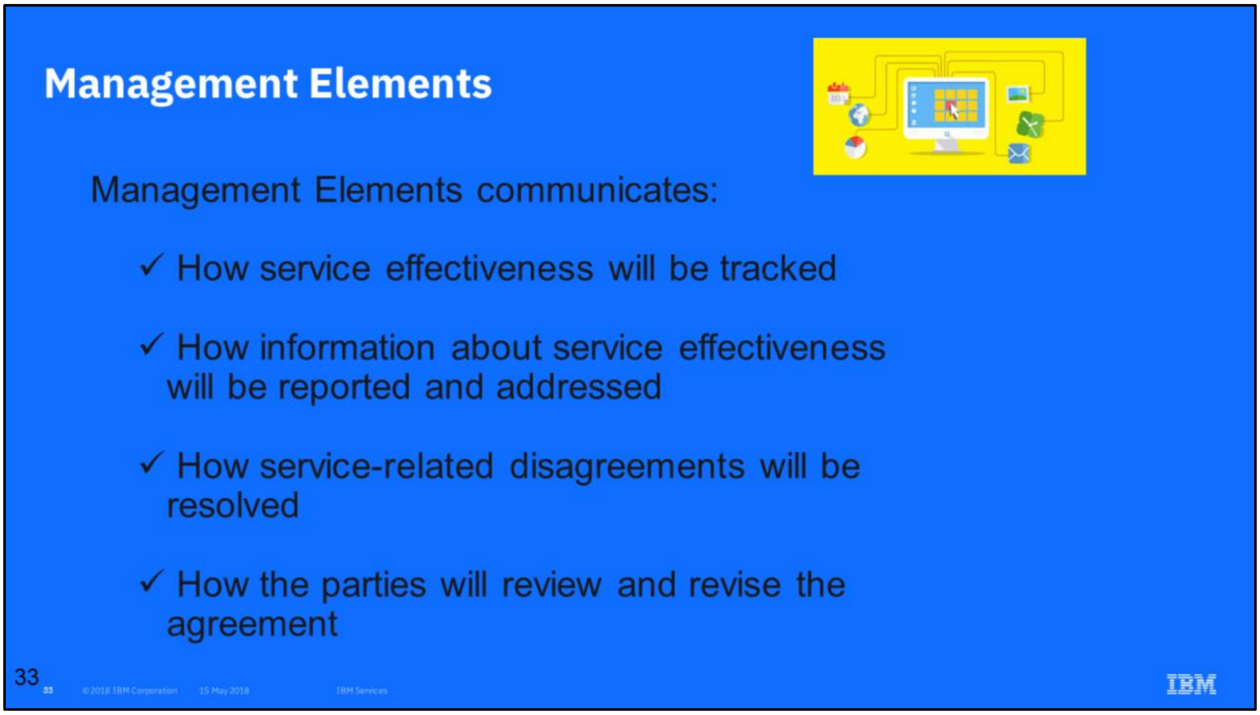
This last item is critical; service requirements and vendor capabilities change, so there must be a way to make sure the SLA is kept up-to-date.

Service Elements

Quality of service report

Service Elements communicates :

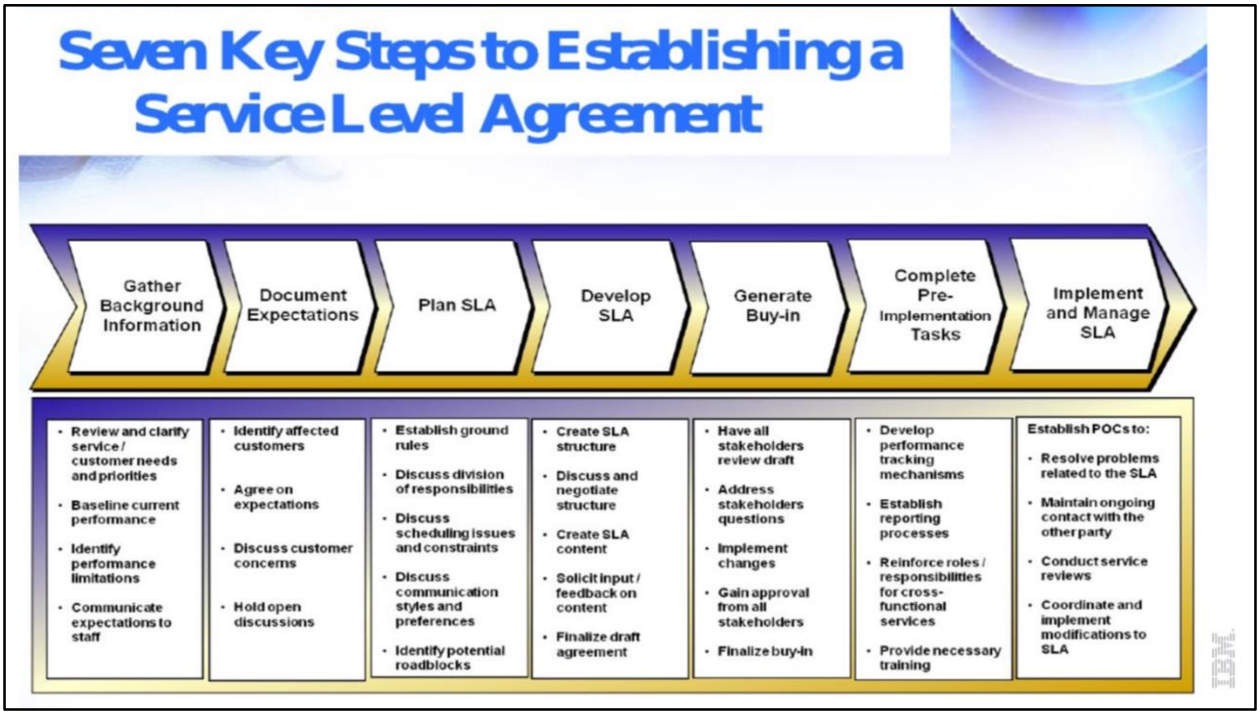
- ✓ What services will be provided
- ✓ What are the conditions of service availability
- ✓ What are the service standards
- ✓ What are the responsibilities of both parties



Management Elements

Management Elements communicates:

- ✓ How service effectiveness will be tracked
- ✓ How information about service effectiveness will be reported and addressed
- ✓ How service-related disagreements will be resolved
- ✓ How the parties will review and revise the agreement



Seven Key Steps to Establishing a Service Level Agreement

Gather Background Information	Document Expectations	Plan SLA	Develop SLA	Generate Buy-in	Complete Pre-Implementation Tasks	Implement and Manage SLA
- Review and clarify service / customer needs and priorities - Baseline current performance - Identify performance limitations - Communicate expectations to staff	- Identify affected customers - Agree on expectations - Discuss customer concerns - Hold open discussions	- Establish ground rules - Discuss division of responsibilities - Discuss scheduling issues and constraints - Discuss communication styles and preferences - Identify potential roadblocks	- Create SLA structure - Discuss and negotiate structure - Create SLA content - Solicit input / feedback on content - Finalize draft agreement	- Have all stakeholders review draft - Address stakeholders questions - Implement changes - Gain approval from all stakeholders - Finalize buy-in	- Develop performance tracking mechanisms - Establish reporting processes - Reinforce roles / responsibilities for cross-functional services - Provide necessary training	Establish POCs to: - Resolve problems related to the SLA - Maintain ongoing contact with the other party - Conduct service reviews - Coordinate and implement modifications to SLA

What should I consider when selecting metrics for my SLA?

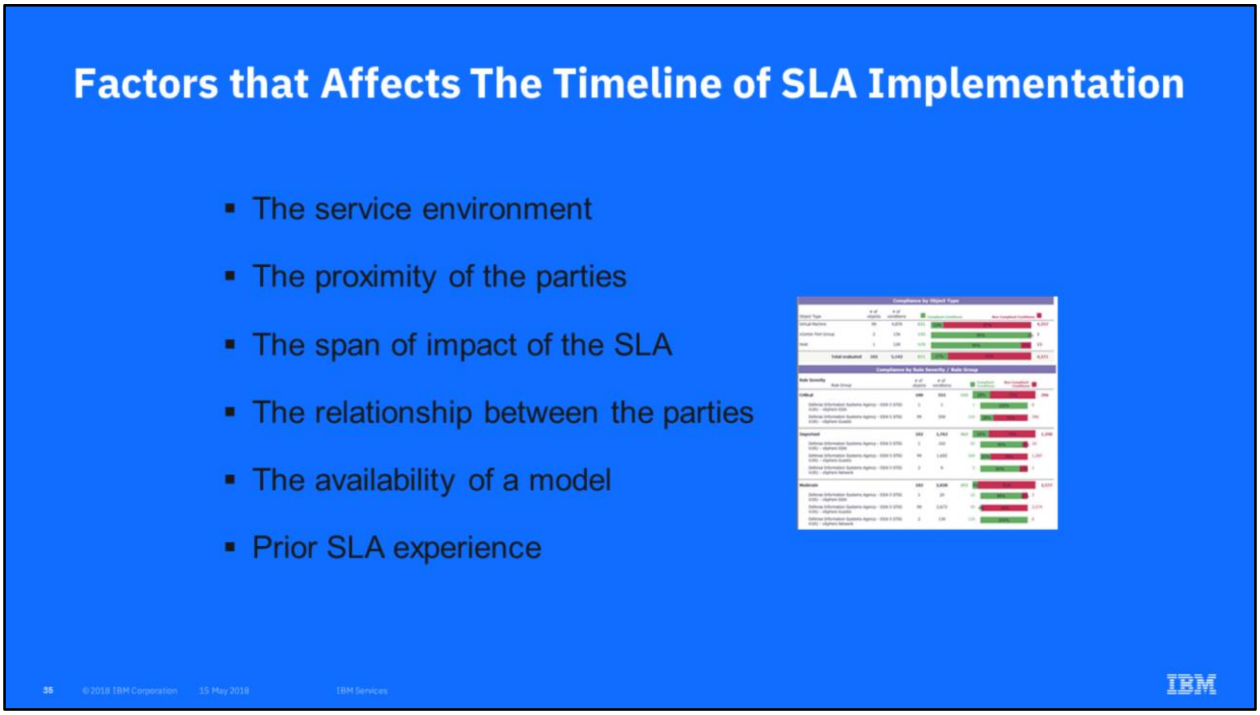
Choose measurements that motivate the right behavior. The first goal of any metric is to motivate the appropriate behavior on behalf of the client and the service provider. Each side of the relationship will attempt to optimize its actions to meet the performance objectives defined by the metrics. First, focus on the behavior that you want to motivate. Then, test your metrics by putting yourself in the place of the other side. How would you optimize your performance? Does that optimization support the originally desired results?

Ensure that metrics reflect factors within the service provider's control. To motivate the right behavior, SLA metrics have to reflect factors within the outsourcer's control. A typical mistake is to penalize the service provider for delays caused by the client's lack of performance. For example, if the client provides change specifications for application code several weeks late, it is unfair and demotivating to hold the service provider to a prespecified delivery date. Making the SLA two-sided by measuring the client's performance on mutually dependent actions is a good way to focus on the intended results.

Choose measurements that are easily collected. Balance the power of a desired metric against its ease of collection. Ideally, the SLA metrics will be captured automatically, in the background, with minimal overhead, but this objective may not be possible for all desired metrics. When in doubt, compromise in favor of easy collection; no one is going to invest the effort to collect metrics manually.

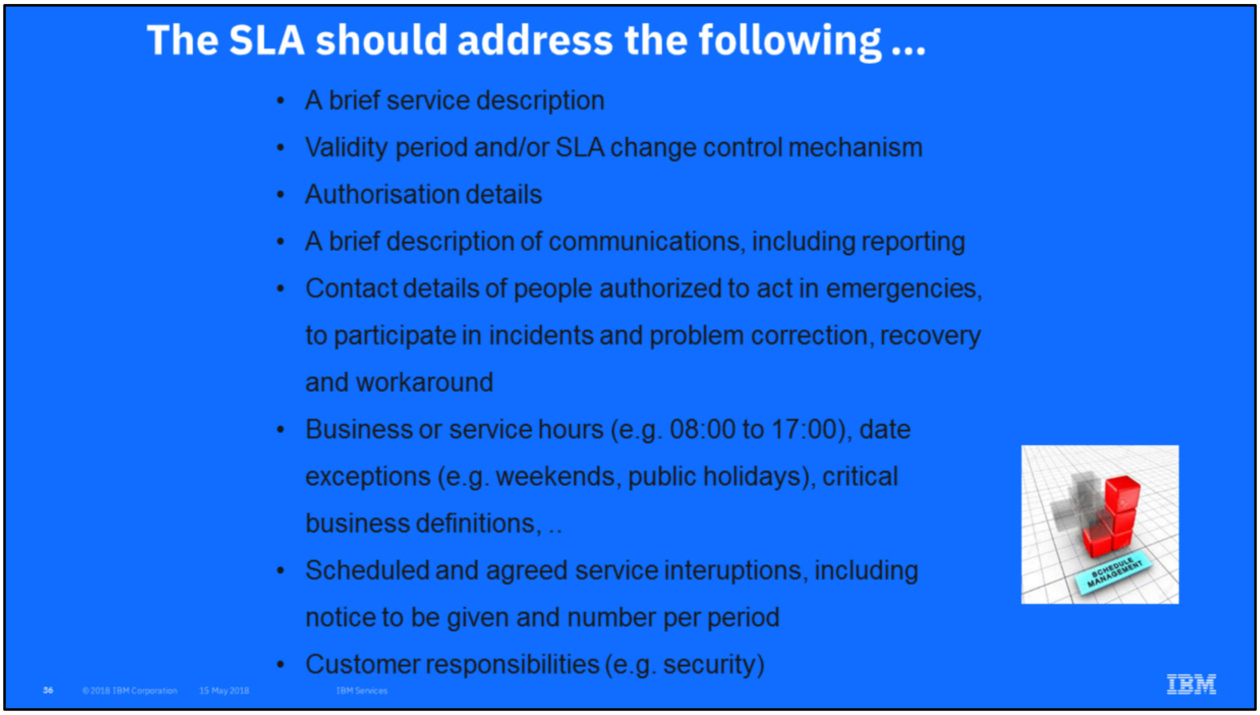
Less is more. Despite the temptation to control as many factors as possible, avoid choosing an excessive number of metrics or metrics that produce a voluminous amount of data that no one will have time to analyze.

Set a proper baseline. Defining the right metrics is only half of the battle. To be useful, the metrics must be set to reasonable, attainable performance levels. Unless strong historical measurement data is available, be prepared to revisit and readjust the settings at a future date through a predefined process specified in the SLA.



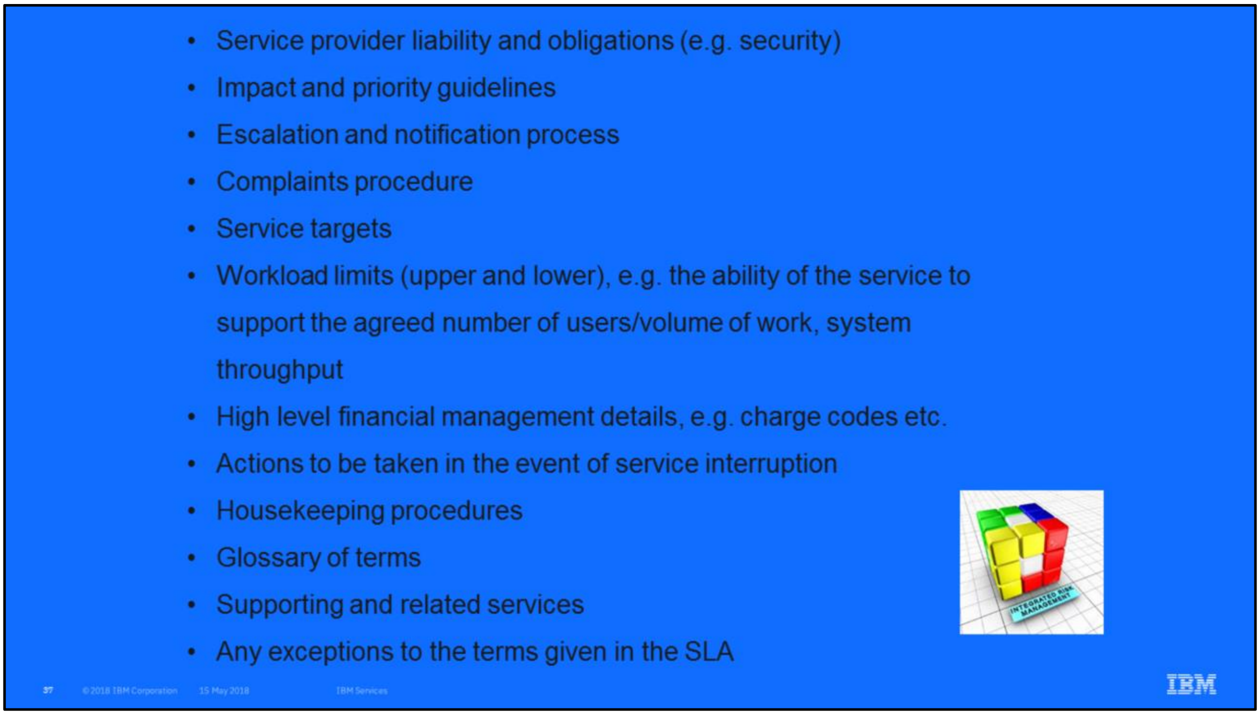
Factors that Affects The Timeline of SLA Implementation

- The service environment
- The proximity of the parties
- The span of impact of the SLA
- The relationship between the parties
- The availability of a model
- Prior SLA experience

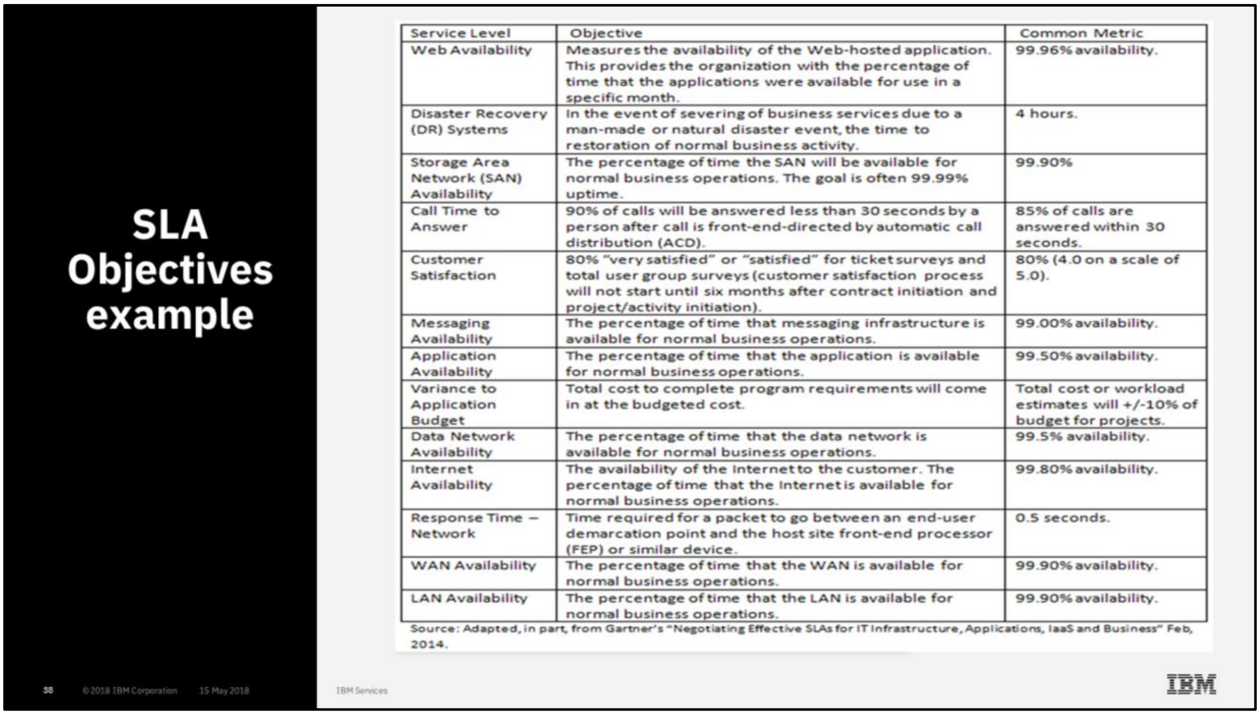


The SLA should address the following …

- A brief service description
- Validity period and/or SLA change control mechanism
- Authorisation details
- A brief description of communications, including reporting
- Contact details of people authorized to act in emergencies, to participate in incidents and problem correction, recovery and workaround
- Business or service hours (e.g. 08:00 to 17:00), date exceptions (e.g. weekends, public holidays), critical business definitions, ..
- Scheduled and agreed service interuptions, including notice to be given and number per period
- Customer responsibilities (e.g. security)



- Service provider liability and obligations (e.g. security)
- Impact and priority guidelines
- Escalation and notification process
- Complaints procedure
- Service targets
- Workload limits (upper and lower), e.g. the ability of the service to support the agreed number of users/volume of work, system throughput
- High level financial management details, e.g. charge codes etc.
- Actions to be taken in the event of service interruption
- Housekeeping procedures
- Glossary of terms
- Supporting and related services
- Any exceptions to the terms given in the SLA



SLA Objectives example

Service Level	Objective	Common Metric
Web Availability	Measures the availability of the Web-hosted application. This provides the organization with the percentage of time that the applications were available for use in a specific month.	99.96% availability.
Disaster Recovery (DR) Systems	In the event of severing of business services due to a man-made or natural disaster event, the time to restoration of normal business activity.	4 hours.
Storage Area Network (SAN) Availability	The percentage of time the SAN will be available for normal business operations. The goal is often 99.99% uptime.	99.90%
Call Time to Answer	90% of calls will be answered less than 30 seconds by a person after call is front-end-directed by automatic call distribution (ACD).	85% of calls are answered within 30 seconds.
Customer Satisfaction	80% "very satisfied" or "satisfied" for ticket surveys and total user group surveys (customer satisfaction process will not start until six months after contract initiation and project/activity initiation).	80% (4.0 on a scale of 5.0).
Messaging Availability	The percentage of time that messaging infrastructure is available for normal business operations.	99.00% availability.
Application Availability	The percentage of time that the application is available for normal business operations.	99.50% availability.
Variance to Application Budget	Total cost to complete program requirements will come in at the budgeted cost.	Total cost or workload estimates will +/-10% of budget for projects.
Data Network Availability	The percentage of time that the data network is available for normal business operations.	99.5% availability.
Internet Availability	The availability of the Internet to the customer. The percentage of time that the Internet is available for normal business operations.	99.80% availability.
Response Time – Network	Time required for a packet to go between an end-user demarcation point and the host site front-end processor (FEP) or similar device.	0.5 seconds.
WAN Availability	The percentage of time that the WAN is available for normal business operations.	99.90% availability.
LAN Availability	The percentage of time that the LAN is available for normal business operations.	99.90% availability.

Source: Adapted, in part, from Gartner's "Negotiating Effective SLAs for IT Infrastructure, Applications, IaaS and Business" Feb, 2014.

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What Kind of Metrics Should be Monitored?

Many items can be monitored as part of an SLA, but the scheme should be kept as simple as possible to avoid confusion and excessive cost on either side. In choosing metrics, examine your operation and decide what is most important. The more complex the monitoring (and associated remedy) scheme, the less likely it is to be effective, since no-one will have time to properly analyze the data. When in doubt, opt for ease of collection of metric data; automated systems are best, since it is unlikely that costly manual collection of metrics will be reliable.

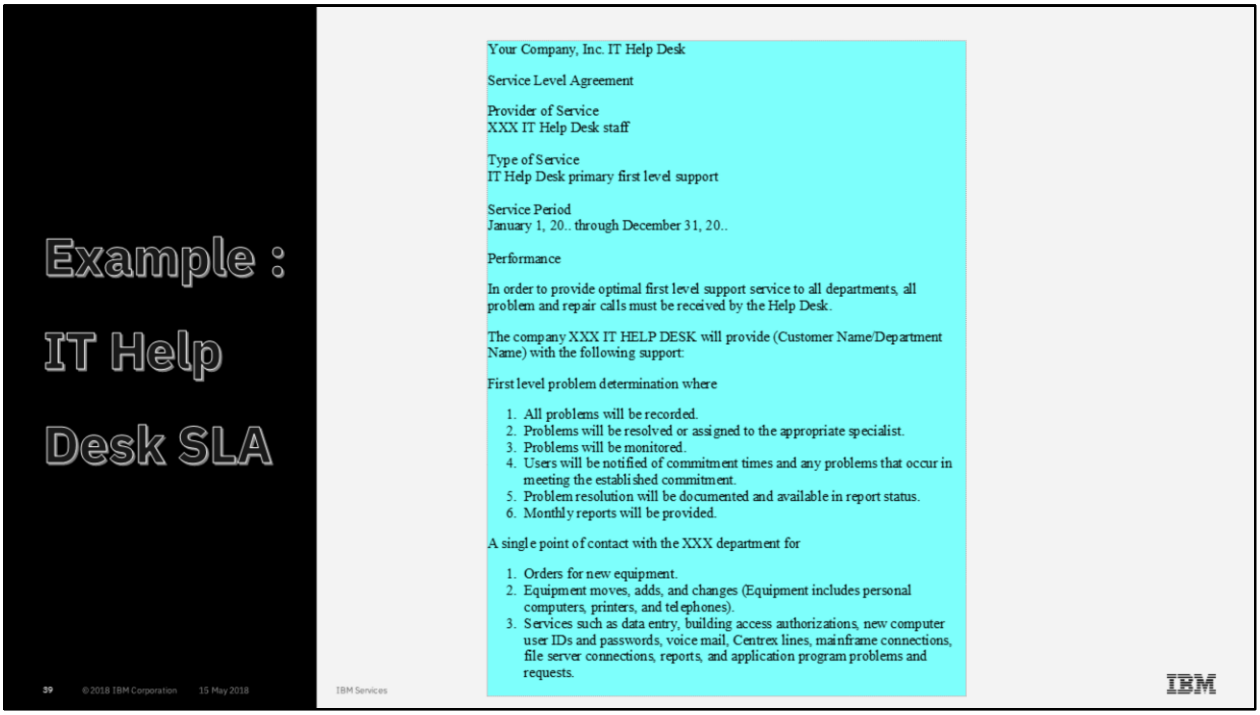
Depending on the service, the types of metric to monitor may include:

Service availability: the amount of time the service is available for use. This may be measured by time slot, with, for example, 99.5 percent availability required between the hours of 8 am and 6 pm, and more or less availability specified during other times. E-commerce operations typically have extremely aggressive SLAs at all times; 99.999 percent uptime is a not uncommon requirement for a site that generates millions of dollars an hour.

Defect rates: Counts or percentages of errors in major deliverables. Production failures such as incomplete backups and restores, coding errors/rework, and missed deadlines may be included in this category.

Technical quality: in outsourced application development, measurement of technical quality by commercial analysis tools that examine factors such as program size and coding defects.

Security: In these hyper-regulated times, application and network security breaches can be costly. Measuring controllable security measures such as anti-virus updates and patching is key in proving all reasonable preventive measures were taken, in the event of an incident.



Example : IT Help Desk SLA

Your Company, Inc. IT Help Desk

Service Level Agreement

Provider of Service
XXX IT Help Desk staff

Type of Service
IT Help Desk primary first level support

Service Period
January 1, 20.. through December 31, 20..

Performance

In order to provide optimal first level support service to all departments, all problem and repair calls must be received by the Help Desk.

The company XXX IT HELP DESK will provide (Customer Name/Department Name) with the following support:

First level problem determination where

1. All problems will be recorded.
2. Problems will be resolved or assigned to the appropriate specialist.
3. Problems will be monitored.
4. Users will be notified of commitment times and any problems that occur in meeting the established commitment.
5. Problem resolution will be documented and available in report status.
6. Monthly reports will be provided.

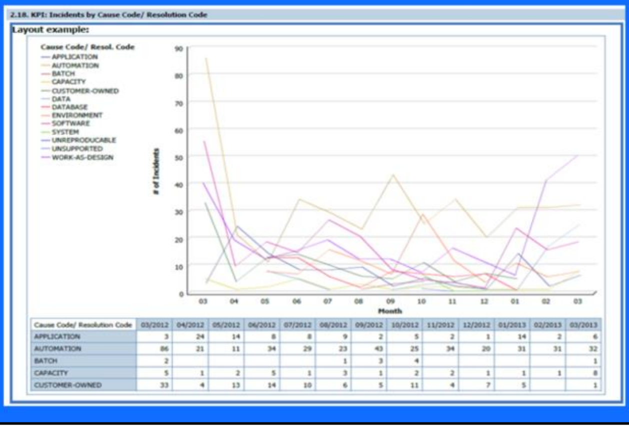
A single point of contact with the XXX department for

1. Orders for new equipment.
2. Equipment moves, adds, and changes (Equipment includes personal computers, printers, and telephones).
3. Services such as data entry, building access authorizations, new computer user IDs and passwords, voice mail, Centrex lines, mainframe connections, file server connections, reports, and application program problems and requests.

Results have to be reported – information is crucial for the overall success

The modern ITSM tools should provide integrated reporting functionality. Also online dashboard function is required.

From basic reports :



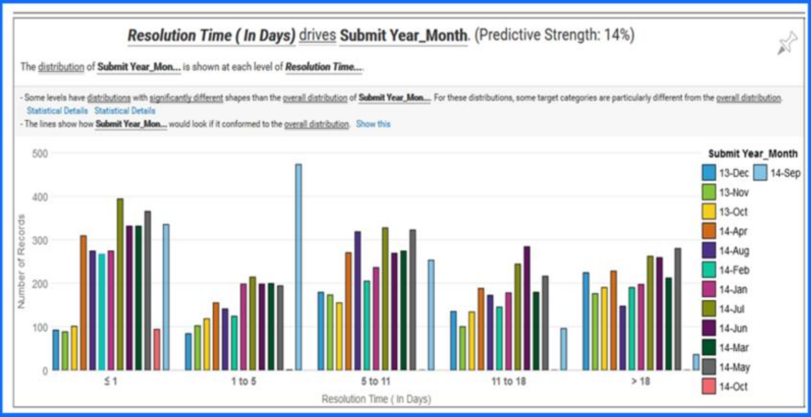
2.18. KPI: Incidents by Cause Code/ Resolution Code

Layout example:

Cause Code/ Resol. Code
APPLICATION
AUTOMATION
BATCH
CAPACITY
CUSTOMER-OWNED
DATA
DATABASE
ENVIRONMENT
SOFTWARE
SYSTEM
UNREPRODUCABLE
UNSUPPORTED
WORK-AS-DESIGN
# of Incidents
0
10
20
30
40
50
60
70
80
90
03
04
05
06
07
08
09
10
11
12
01
02
03
Month

Cause Code/ Resolution Code	03/2012	04/2012	05/2012	06/2012	07/2012	08/2012	09/2012	10/2012	11/2012	12/2012	01/2013	02/2013	03/2013
APPLICATION	3	24	14	8	8	9	2	5	2	1	14	2	6
AUTOMATION	86	21	11	34	29	23	43	25	34	20	31	31	32
BATCH	2					1	3	4					1
CAPACITY	5	1	2	5	1	3	1	2	2	1	1	1	8
CUSTOMER-OWNED	33	4	13	14	10	6	5	11	4	7	5		1

To complex analysis even with predictions:

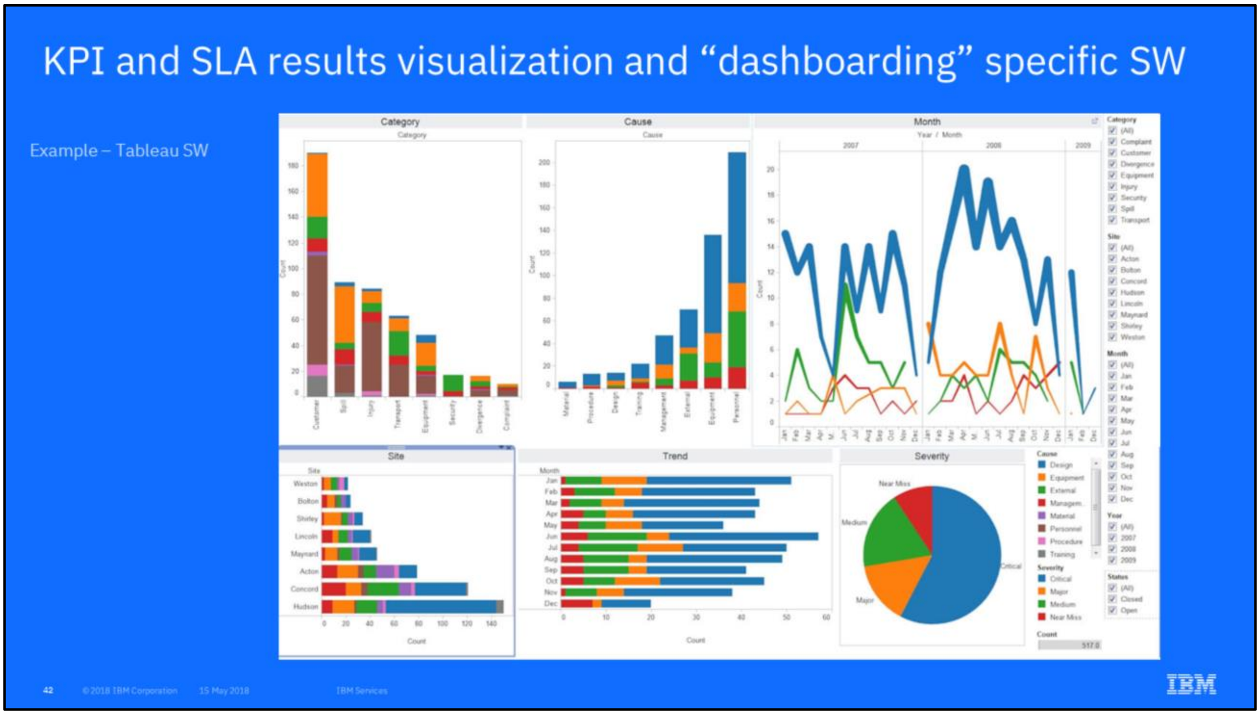


Resolution Time (In Days) drives **Submit Year_Month**. (Predictive Strength: 14%)

The distribution of **Submit Year_Mon...** is shown at each level of ***Resolution Time...***.

- Some levels have distributions with significantly different shapes than the overall distribution of **Submit Year_Mon...**. For these distributions, some target categories are particularly different from the overall distribution. Statistical Details Statistical Details
- The lines show how **Submit Year_Mon...** would look if it conformed to the overall distribution. Show this

500
400
300
200
100
0
Number of Records
≤ 1
1 to 5
5 to 11
11 to 18
> 18
Resolution Time (In Days)
Submit Year_Month
13-Dec
14-Sep
13-Nov
13-Oct
14-Apr
14-Aug
14-Feb
14-Jan
14-Jul
14-Jun
14-Mar
14-May
14-Oct



KPI and SLA results visualization and “dashboarding” specific SW

Example – Tableau SW

Category
Category
Count
0
20
40
60
80
100
120
140
160
180
Customer
Spill
Injury
Transport
Equipment
Security
Divergence
Complaint
Cause
Cause
Count
0
20
40
60
80
100
120
140
160
180
200
Material
Procedure
Design
Training
Management
External
Equipment
Personnel
Month
Year / Month
2007
2008
2009
Count
0
2
4
6
8
10
12
14
16
18
20
Jan
Feb
Mar
Apr
M..
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
M..
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Dec
Site
Site
Weston
Bolton
Shirley
Lincoln
Maynard
Acton
Concord
Hudson
0
20
40
60
80
100
120
140
Count
Trend
Month
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
0
10
20
30
40
50
60
Count
Severity
Near Miss
Medium
Major
Critical

Cause
- 🟦 Design
- 🟧 Equipment
- 🟩 External
- 🟥 Managem..
- 🟪 Material
- 🟫 Personnel
- ■ Procedure
- ■ Training

Severity
- 🟦 Critical
- 🟧 Major
- 🟩 Medium
- 🟥 Near Miss

Count
517.0

Category
- ☑ (All)
- ☑ Complaint
- ☑ Customer
- ☑ Divergence
- ☑ Equipment
- ☑ Injury
- ☑ Security
- ☑ Spill
- ☑ Transport

Site
- ☑ (All)
- ☑ Acton
- ☑ Bolton
- ☑ Concord
- ☑ Hudson
- ☑ Lincoln
- ☑ Maynard
- ☑ Shirley
- ☑ Weston

Month
- ☑ (All)
- ☑ Jan
- ☑ Feb
- ☑ Mar
- ☑ Apr
- ☑ May
- ☑ Jun
- ☑ Jul
- ☑ Aug
- ☑ Sep
- ☑ Oct
- ☑ Nov
- ☑ Dec

Year
- ☑ (All)
- ☑ 2007
- ☑ 2008
- ☑ 2009

Status
- ☑ (All)
- ☑ Closed
- ☑ Open

What shall we talk about next?

ITSM future directions

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