

AVM Service Line

AVM Overview

LEVEL – LEARNER





Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview

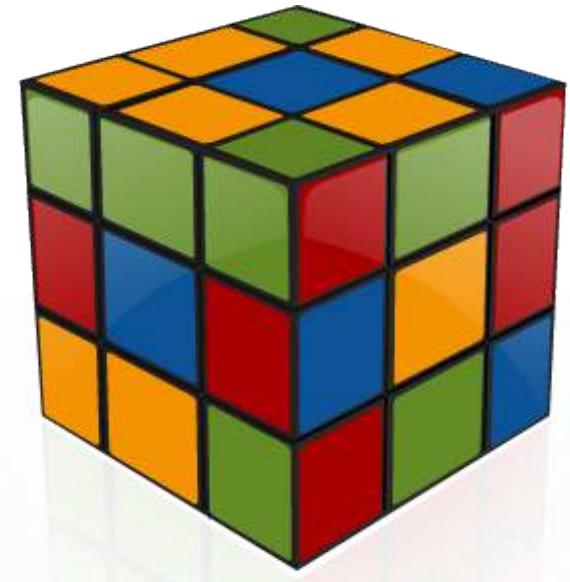


This session is for the Entry level trainees to give an overview about Application Value Management (AVM).



Objective

- Explain what is AVM
- Explain how critical it is for Cognizant and its Customer
- Explain SDLC of an AVM Project
- Activities involved in Legacy AVM
- Cognizant Methodology - Enhancements
- Service Management and ITIL
- Legacy AVM Vs. ITIL Vs. Managed Services
- Managed Services Catalog
- AVM Operating Model
- Activities of L0-L4 support
- Learning and Advantages
- Footprint of Cognizant in AVM Projects



What is Application Maintenance?

Any work done to change the software / application ***after it is in operation*** is considered to be software /application maintenance work

Application Maintenance is done to correct the faults, improve performance, or adapt an existing application to a new environment.

The purpose is to preserve the value of application over the time. The value can be enhanced by expanding the customer base, meeting additional requirements, becoming easier to use, more efficient and applying newer technology. Maintenance may span for 20 years, whereas development may be 1-2 years

For example Application Maintenance is required when:

- In reality the software model changes
- New functionality is added
- Application must be updated to run on improved hardware or with improved software

Application Maintenance



Application Maintenance can be categorized as :

- **Corrective** - Fixes a fault in the application without changing / adding to the application's functionality
- **Adaptive** - Modifies application to preserve functionality in a changed environment.
To address new tasks or business opportunities
- **Perfective** - Improves performance, maintainability and can extend the functionality of the application.
- **Preventive** - Changes are made to the system in order to prevent further faults and to improve the structure and maintainability of the system

	Correction	Enhancement
Proactive	Preventive	Perfective
Reactive	Corrective	Adaptive

Terminologies used

Acronyms	Definitions
AVM	Application Value Management
ERP	Enterprise resource planning
EBR	Enhancement Bug fix request
ODC	Offshore development center
SLA	Service Level Agreement
SME	Subject Matter Expert
FTE	Full Time Equivalent



Why Application Maintenance is crucial

- Maintenance of any application is critical to customer's business
 - A small incorrect action will make a big loss to Customer's business. For example, a minor incorrect data value change will give an incorrect financial value which will create a big impact to Customer's business.
- Value vs. Support
 - Value provided through Application Development while the subsequent maintenance and support provided through Application Maintenance *influences customer satisfaction*.
 - Any Issues with the performance of business-critical applications can cause *deterioration client business performance*. Hence application availability to the end users is important to run their business without any *impacts to their business opportunities*
 - Slow or not readily available applications that supports key business processes can *cause revenue loss, and decline in customer satisfaction, employee productivity or brand reputation*

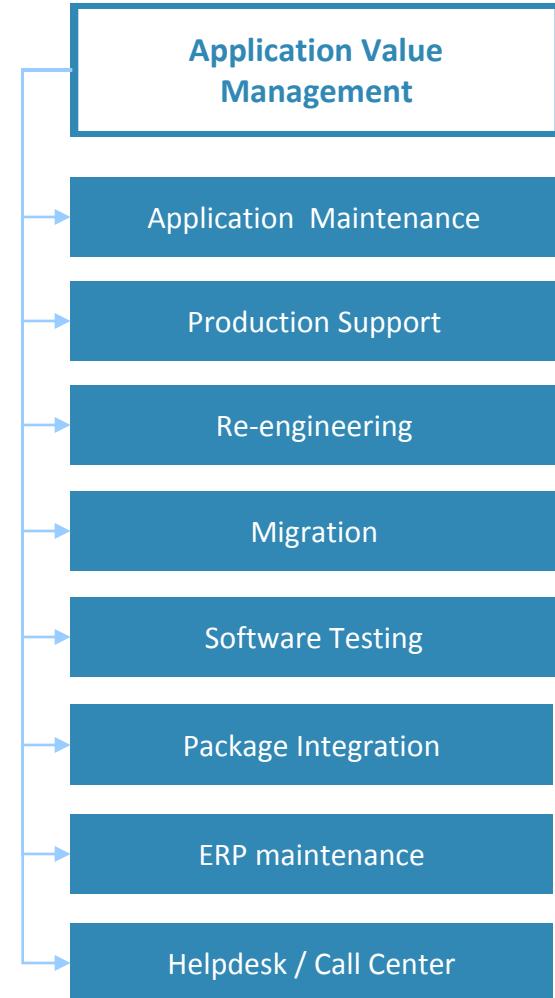


Why Application Maintenance is crucial

- Applications will be the backbone of client business. Maintaining the application to make it available without any interruption itself is a basic business need.
 - Application Availability
 - ✓ Need to make systems more responsive to meet the changing business needs
 - ✓ Uninterrupted access to applications and systems - support for critical applications 24*7
- In today's Software As A Service (SaaS) model, it is crucial for the IT organization to provide support services to maintain growth and improve revenue.

Application Value Management (AVM)

- In Cognizant, any Application Maintenance is referred as Application Value Management because it adds value to the business needs of the Customer.
- Services included within the Application Value Management are regular maintenance, production support, migration to a new platform, re-engineering and so on.





AVM Methodology - SDLC

1

Planning & Initiation Phase

- » Understand the need.
- » Set the right direction.

2

Transition Phase

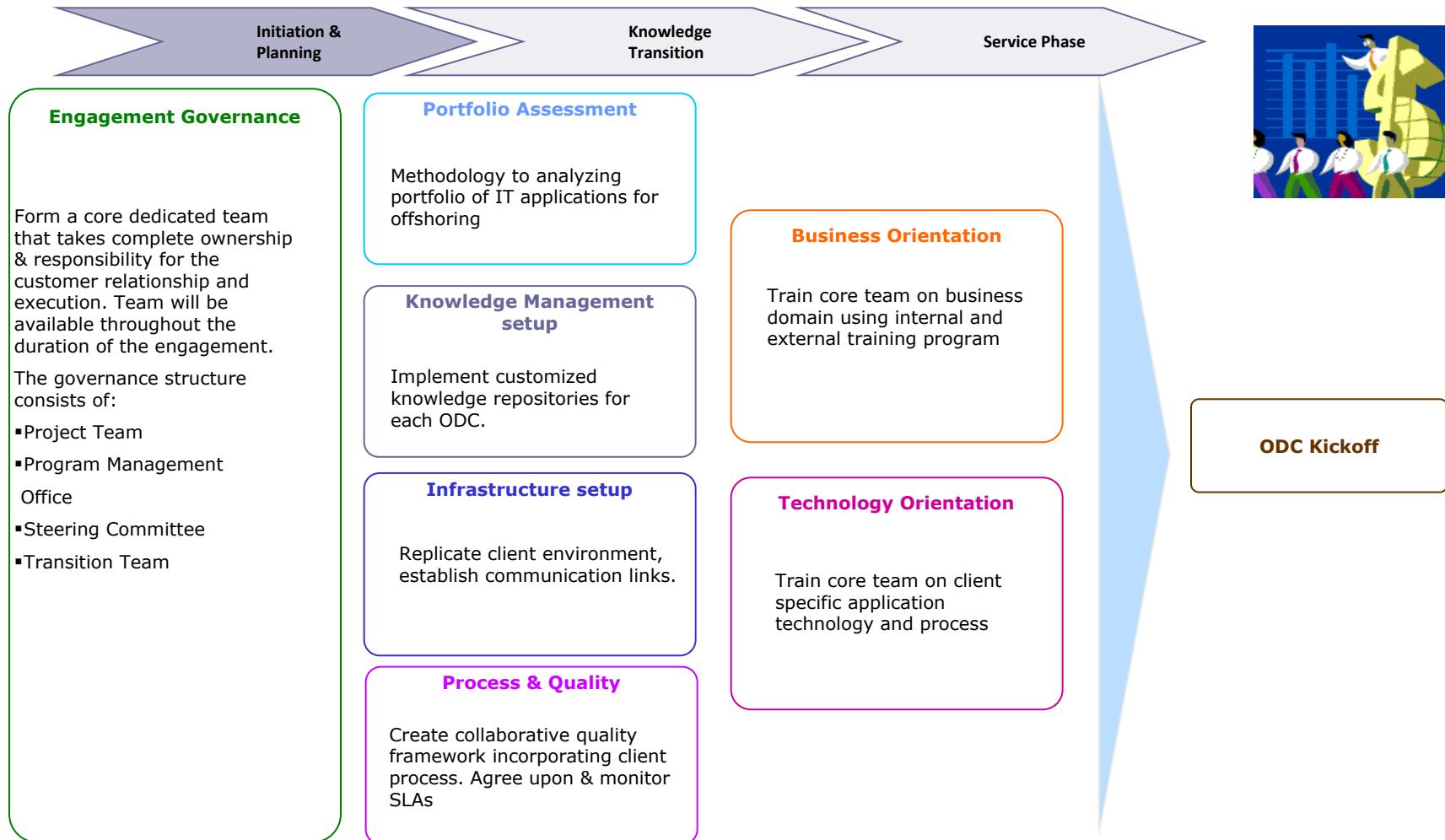
- » Build the team.
- » Transfer knowledge.
- » Transition work.

3

Service Phase

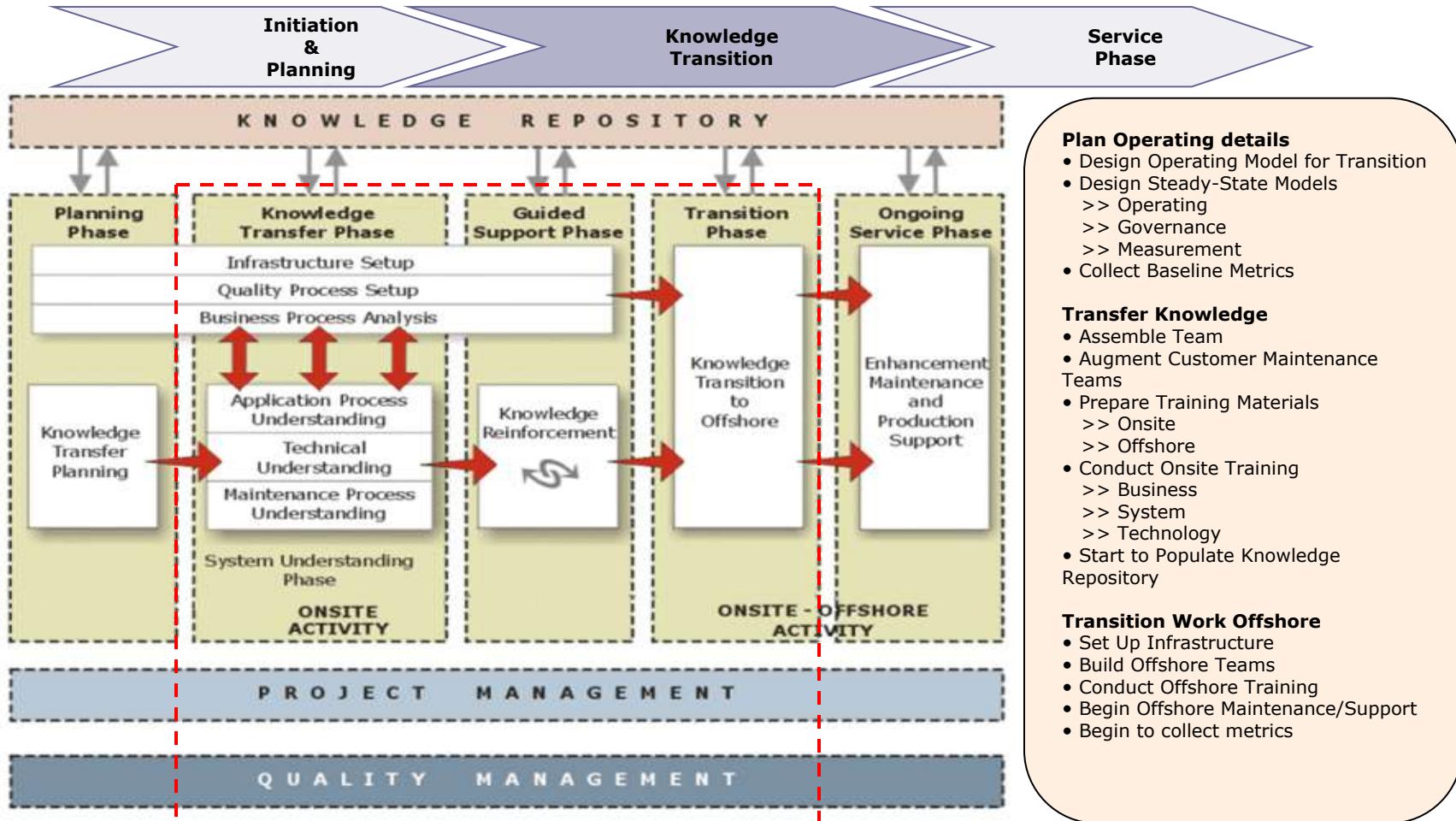
- » Operate.
- » Optimize.
- » Add value.

Initiation and Planning



Cognizant invests in People, Process framework, Infrastructure & Training before any outsourcing engagement

Knowledge Transition – Process Outline



Cognizant Knowledge Transition typically takes around 8 -12 weeks

Service Phase (On-going) or Steady State

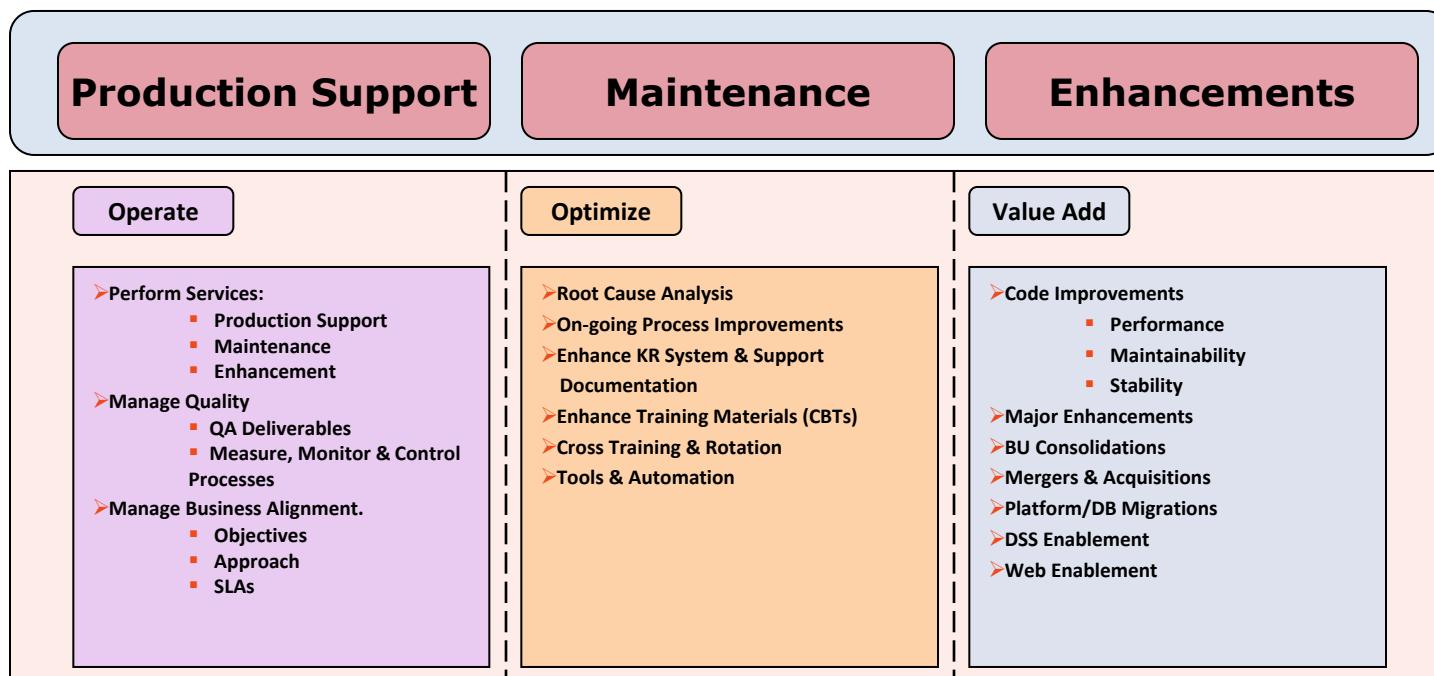


Legacy AVM project consists of three types of activities:

Production Support – Operate the regular business

Maintenance - Optimize

Enhancements – Value additions to the existing business



Activities involved in Legacy AVM



Production Support is the practice and discipline of supporting the IT systems/applications which are currently being used by the end users. This support is handled by

- a) Level 0 Support – first level /Help desk / service Desk
- b) Level 1 Support – Second level support

Maintenance(Bug fix) is done to correct faults, improve performance or adapt an existing application to a new environment. This support is handled by Level 2 and level 3 support team

- a) Minor Bug fix
- b) Major Bugfix
- c) Super Major Bugfix

Enhancement is any application change or upgrade that increases software or hardware capabilities beyond original client specifications. This support handled by Level 4 support

- a) Minor Enhancements
- b) Major Enhancements
- c) Super Major Enhancements

Production Support – Team Handshake (Sample)

Follow the Sun Model - 24*7 Production Services

Shift Handover



Production Support - Timeframe - DST

	AM												PM											
UK Work Hours	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Cognizant Onsite (UK)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
India-Shift 1	5:30	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30	0:30	1:30	2:30	3:30	4:30
India-Shift 2	5:30	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30	0:30	1:30	2:30	3:30	4:30

Production Support - Timeframe

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India-Shift 2	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30	0:30	1:30	2:30	3:30	4:30	5:30

- Shifts based support between Onsite & Offshore covering 24 Hours
- Overlap of working hours to enable handshake
- Customized to customer requirements



Service Level Agreement

- Any AVM Project rendering Managed Production Services will have a defined Service Level Agreement.
- SLA is defined in contractual agreement (SOW –*statement of work*)
- SLA is a definite time frame (probably in hours) to respond and resolve support incidents
- Service Level Agreement will be attached with penalty clause in almost all the engagements
- “What is Penalty Clause?” : If Cognizant as a vendor failed to meet any of the agreed SLA, Cognizant is bound to pay the penalty fees whatever is defined at the engagement level agreement.
- Service Level Agreement of a Production Support will be mainly attached to Level 1, Level 2 & Level 3 requests.
 - Response Time – Time taken by the team to respond to the Business/Customer to notify that team has started working on the Ticket.
 - Resolution Time – Time to resolve the Ticket

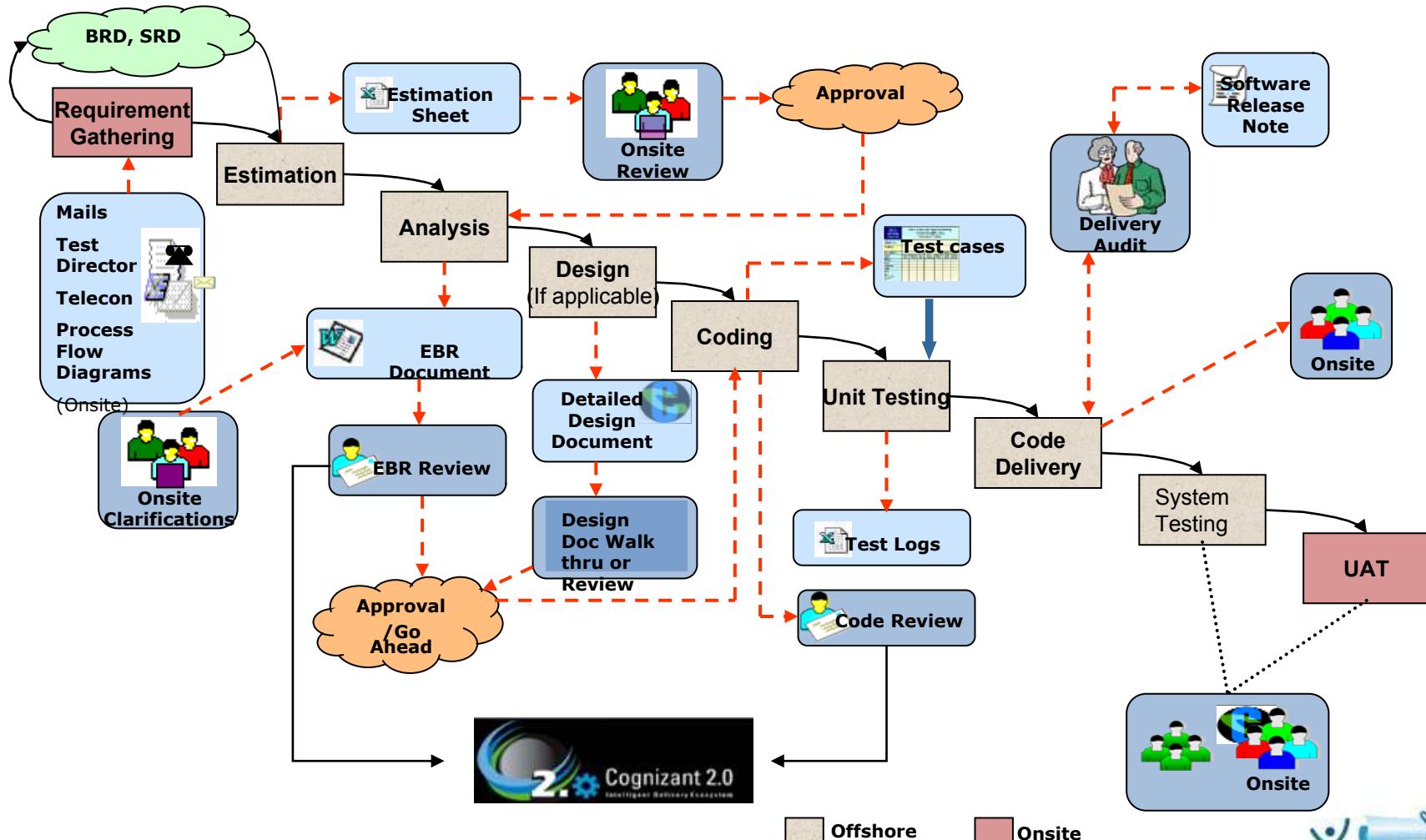
Service Level Agreements (Sample)

Level 1	Level 2	Level 3
Critical Business Problem with major impact on Production/Complete outage of Production	Production failure of major Business Process	Issues related to Client understanding / queries
Major Financial Loss or Reputation Damage	Partial loss of a major System/Service	Issues that don't result in any System outage
Legal or Regulatory risk to Client	Outage impacting an Internal System	Issues with minimal impact to the Client
Loss of Service to a Client facility	Outage affecting multiple Customers	Problem affecting only one Customer
Response Time < 15 min	Response Time < 40 min	Response Time < 1 Day
Resolution Time < 2 hrs	Resolution Time < 24hrs	Resolution Time < 48hrs

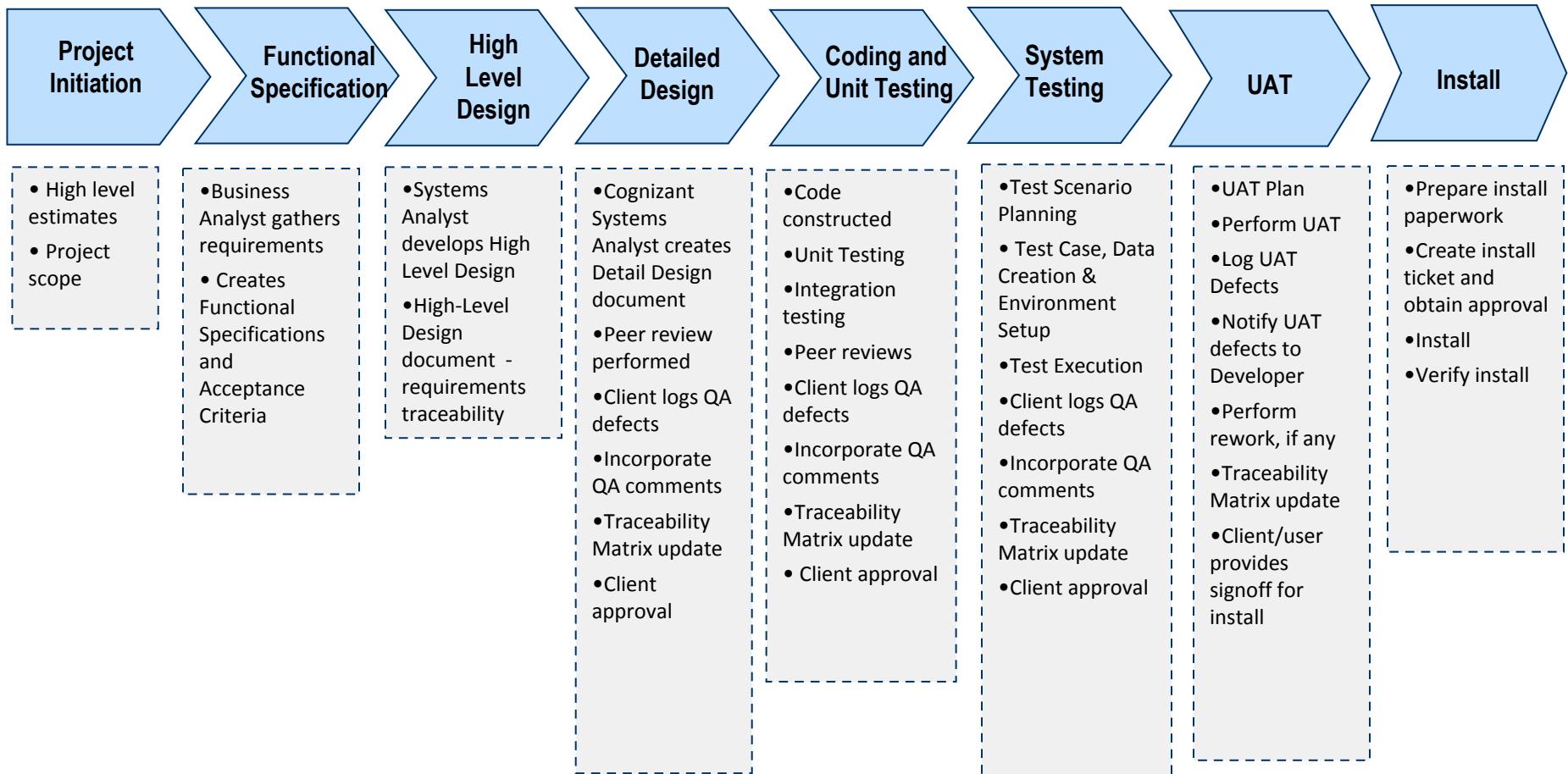


Cognizant Methodology (Enhancements)

Execution of Enhancements follow the Software Development Life Cycle (SDLC) phases



Enhancements - Life Cycle



The All New AVM

Service Management, ITIL, Managed Services



Legacy AVM

What is Service Management?

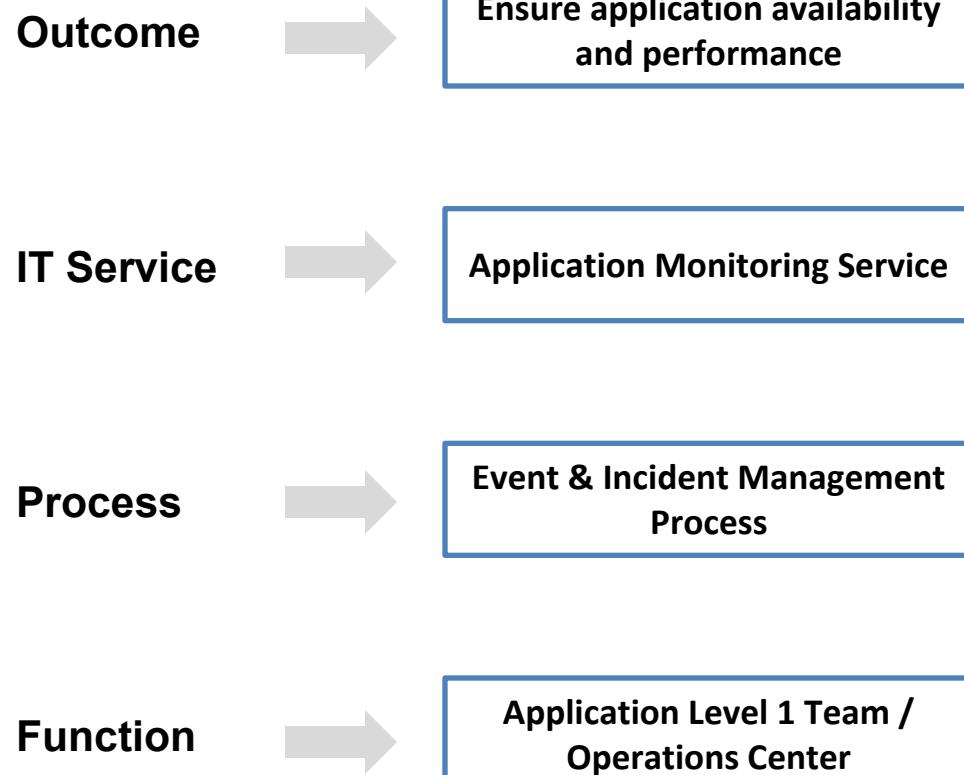
- Service Management is a set of specialized organizational capabilities for providing value to customers in the form of “**SERVICES**”
- Definition of **Processes** and **Functions** for managing the SERVICES over their Lifecycle

What is a Service, Process and Function?

Service is a means of delivering value to customers by facilitating OUTCOMES the customers want to achieve without the ownership of specific costs and risks.

Process is a set of activities designed to accomplish a specific OUTCOME. A process takes defined inputs and turns them into defined outputs. A process may include roles, responsibilities, tools and management controls required to deliver the outputs.

Function is a team or group of people and the tools they use to carry out one or more processes to deliver the Service and its stated OUTCOME.

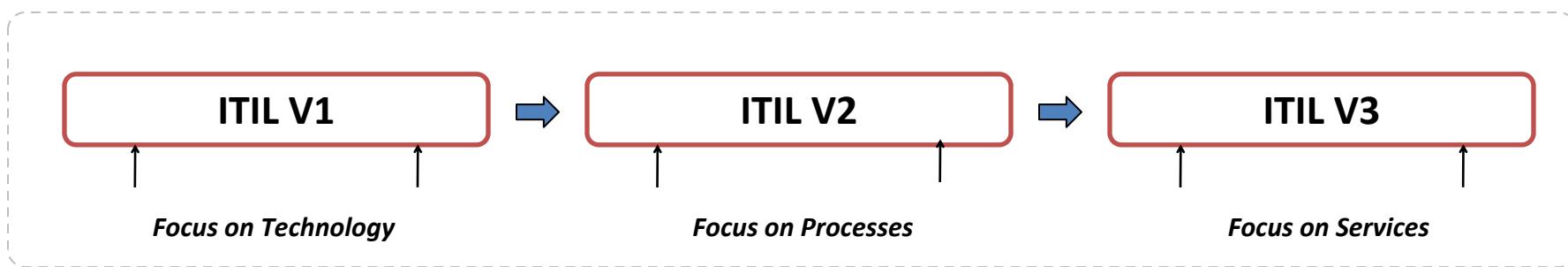


ITIL and Service Management



ITIL is a set of practices for IT Service Management (ITSM) that focuses on aligning IT Services with the business needs. The IT Infrastructure Library (ITIL) is the worlds most widely accepted approach to the Management and Delivery of IT Services.

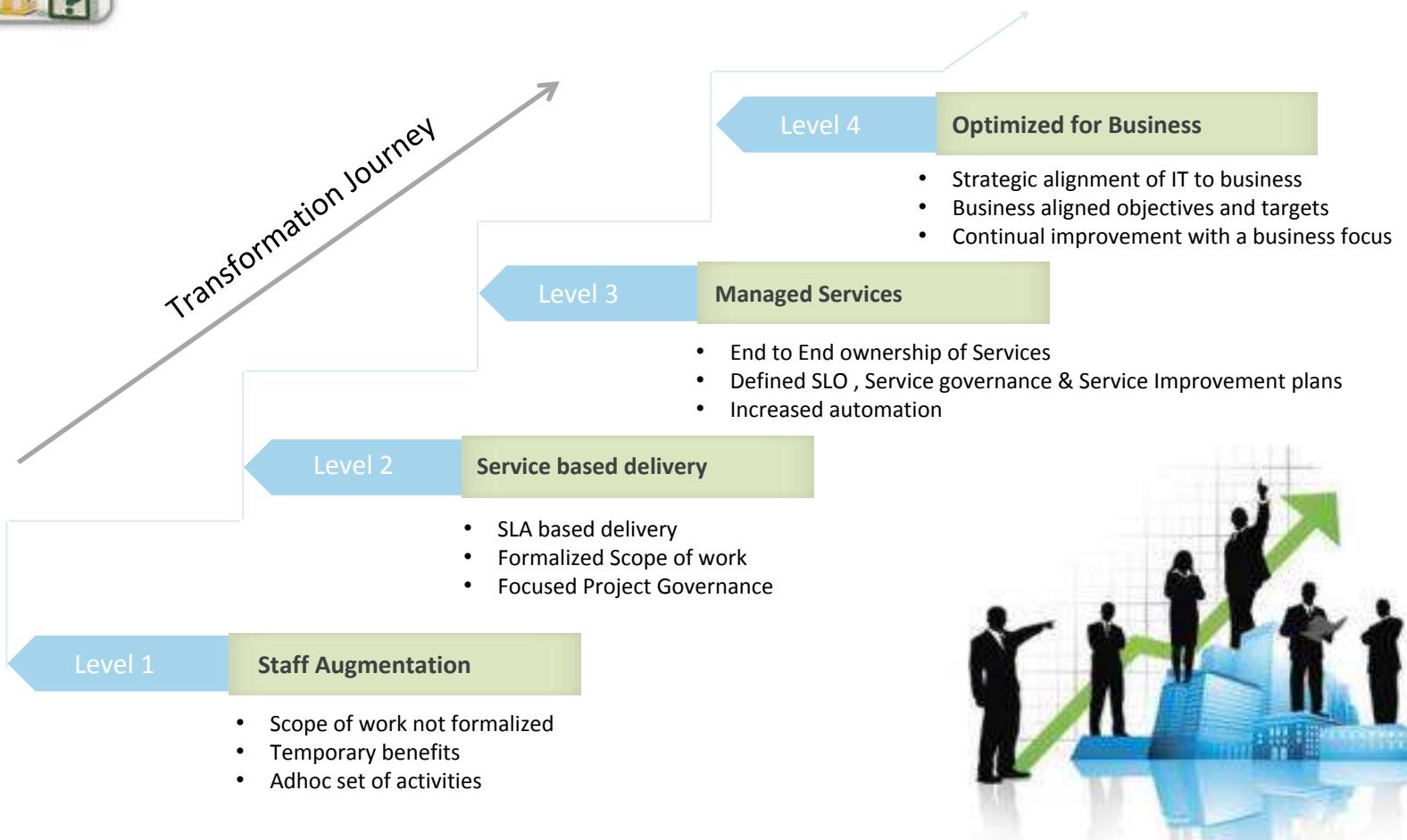
Evolution of ITIL



Successful introduction of IT Service Management with ITIL should deliver the following benefits

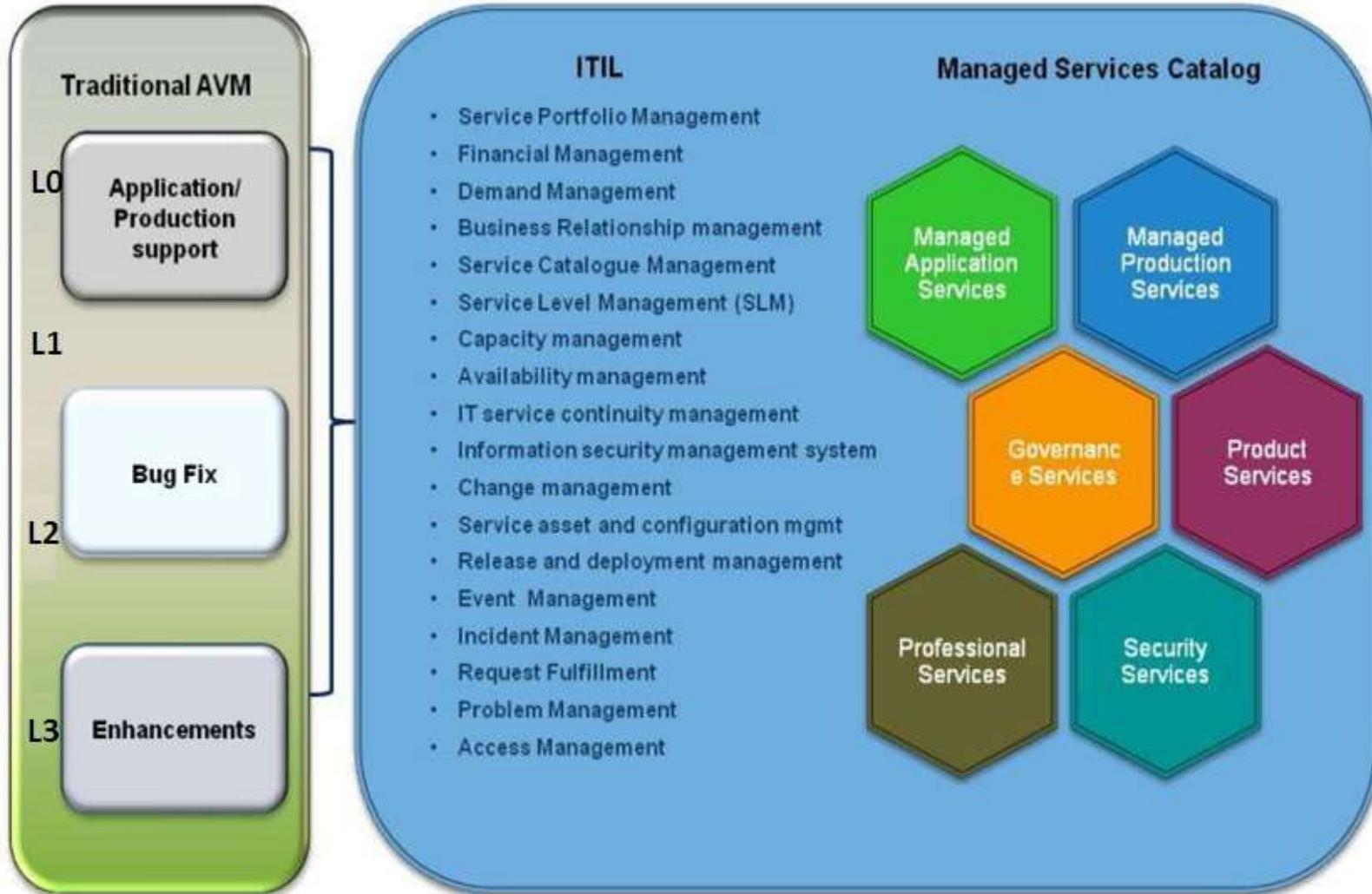
- Improved Customer satisfaction through delivering expected Outcomes
- Common Language across Service Delivery
- Consistent processes across Service Lines
- Improved Quality of Service through proven processes and best practices
- Increased productivity of IT through repeatable processes
- Visibility into IT assets and associated costs

AVM Engagement Maturity Model



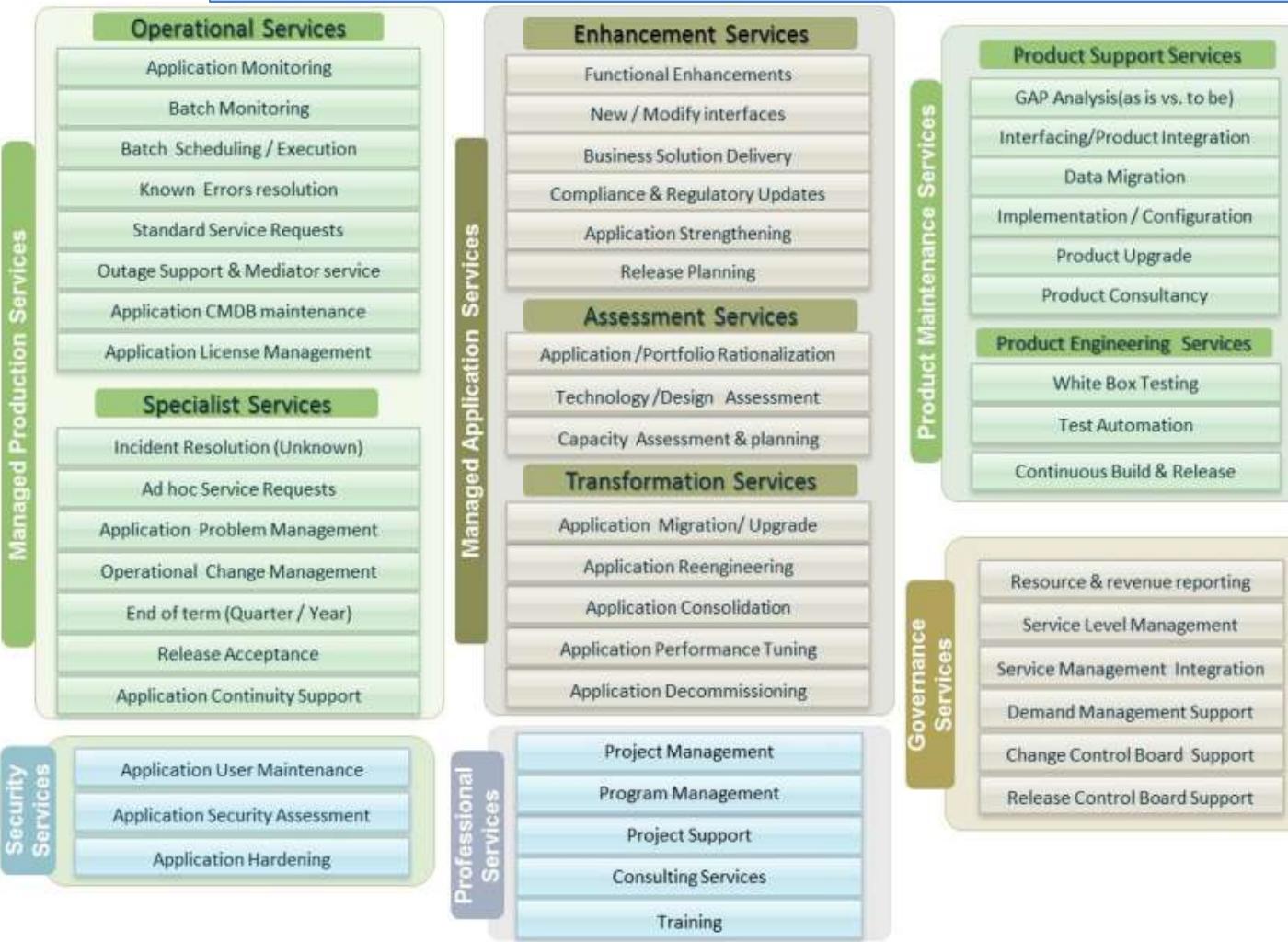
- Transformation journey to take the engagement from current level to higher maturity levels
- Goal to align IT Quality to measurable Service Outcomes

Legacy AVM Vs. ITIL Vs. AVM Managed Services Catalog



AVM Managed Services Catalog (ITIL V3 aligned)

Service Catalog is a list of services an Organization will offer to its customers along with information about activities, tools, reporting, service coverage, price etc.

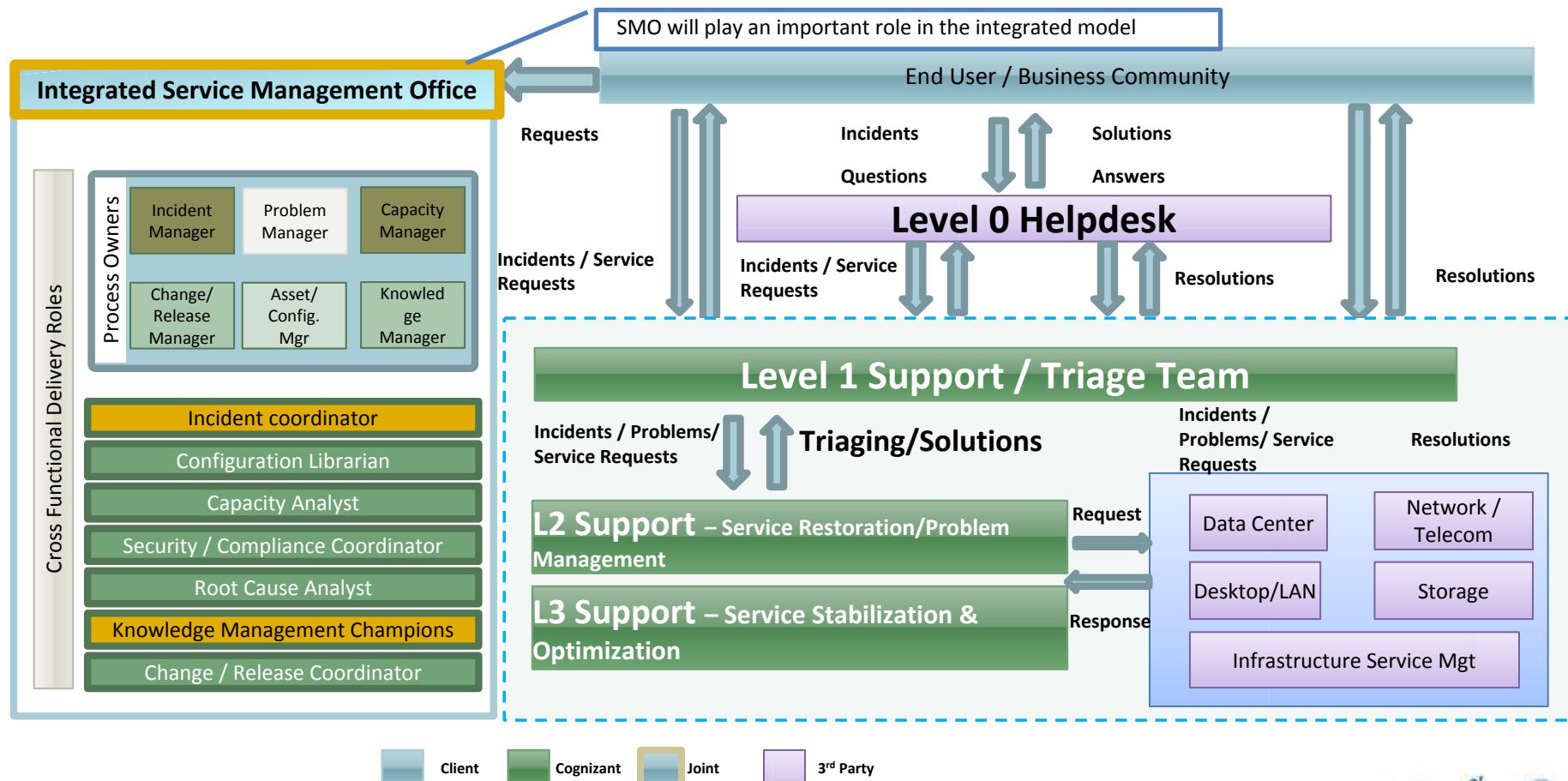


Key Topics as a part of the Catalog

- Service description
- Outcomes
- Activities
- Service initiation
- Tools
- Customer responsibilities
- Service Levels
- Service reporting
- Process Overview
- Service Coverage
- Effort drivers
- Price drivers
- Applicable pricing models

AVM Sample Operating Model

The below picture shows L0 through L3 Support and Service Management Office roles rendering AVM Managed Services



Activities of L0 – L4 Support



Level 0 / Level 1 Support

- Service Desk - First Level of Reporting for Incidents/Service Requests/Complains/Queries
- Handles calls from end users and operations staff
- Incident Logging, Prioritization, Classification
- First Level Issue Diagnosis, Resolution and Closure for Known Errors/Standard Service Requests
- Escalates complex incidents which need analysis to Level 1 Support

Level 2 Support

- Handles technically complex incidents escalated by Level 0/Level1 Support
- Handles Unknown Incidents, Ad-hoc Service Requests, Major Incidents and minor bug fixes
- Escalates to L3 support in case of incidents related to complex functional/technical analysis , incident that require any major Bug fix/ minor functional enhancements

Level 3 Support

- Complex problem resolution for problems escalated by the Level 2 Support
- Business Application problem analysis and trouble-shooting
- Carries out major bug fix and minor functional enhancements / minor changes
- System Administration and trouble-shooting of issues escalated by Level 2 Support
- Escalates Major functional enhancements to L4 support

Level 4 Support

- Handles major functional enhancements , Application Integrations, and Regulatory compliance
- Provides business solutions and focus on Application strengthening
- Responsible for end to end product release and coordinate, communicate & provide KT to support technicians on the developments/enhancements.

Learning and Advantages in AVM



- Can master the technology – As AVM projects gives more code exposure, can gain good technical knowledge in the working technology spectrum
- Due to the Nature of AVM projects – Analytical skills will improve and will master to work in a faster way
- Attain good process knowledge
- Flexible to work on wide range of technology
- Able to master the business in a quicker way with complete depth
- Exposure to Application performance scalability in depth

Footprint of Cognizant in AVM Space

Experience Summary	
No. of years operating small and large ODCs	10+ years
Technology Mix – Legacy:Client/Server:Web	50%:30%:20%
Average experience of Project Managers in delivering offshore AO	10 years
No. of times offshore* FTE ramp from zero to 100+	20
Average time to ramp up to 150 FTEs offshore	2 to 3 months
Average knowledge transition time by application	8 to 12 weeks
Company wide average onsite/offshore ratio	25:75
Total no. of applications transitioned offshore	10,000+



Check Your Understanding

Name the different phases of any AVM project.

[Ans] Planning & Initiation Phase, Knowledge Transition, Service Phase

What is the minimum timeframe for Knowledge transition as per Cognizant Methodology?

[Ans] 8 -12 weeks

What is Managed Service?

[Ans] Defining a catalog of IT services and managing them with clearly stated Outcomes

Which Support Group does the Service Desk Activities?

[Ans] L0 Support

What is Response time?

[Ans] Time taken by the team to respond to the Business/Customer to notify that team has started working on the Ticket.

What is Resolution time?

[Ans] Time taken to resolve the ticket

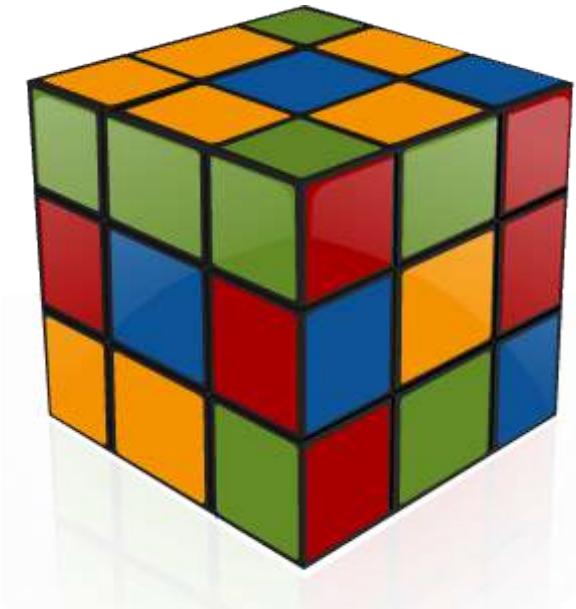
What is the difference between Level2 ticket and Level 3 ticket?

[Ans] L2 deals with complex problem resolution for problems escalated by the level 1 help-desk while L3 deals with operational change management services and trouble-shooting of issues escalated by L2



Summary

- AVM Overview
- Criticality of AVM
- AVM SDLC
- Activities involved in Legacy AVM
- SLA
- Enhancements Methodology
- Service Management and ITIL
- Managed Services
- AVM Operating Model
- L0 – L3 Support
- Learning and Advantages



AVM Service Line

You have successfully completed -
AVM Overview



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

ITIL Fundamentals

LEVEL – LEARNER





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Summary



Test Your
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Overview



This session is for the Entry Level Trainees to help them understand the ITIL Fundamentals and the way ITIL is linked with AVM



Objective

Why ITIL?

Background of ITIL

What is Service Management?

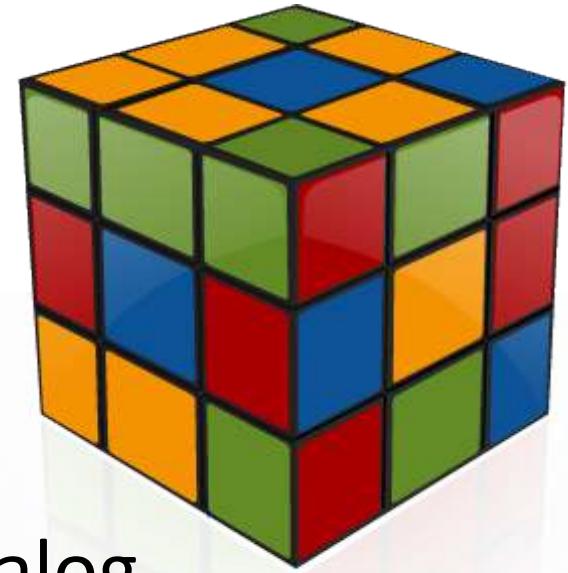
ITIL Service Lifecycle Phases

ITIL Service Lifecycle Processes

Overview of ITIL Phases

AVM Vs. ITIL

ITIL Aligned Managed Services Catalog





Why ITIL

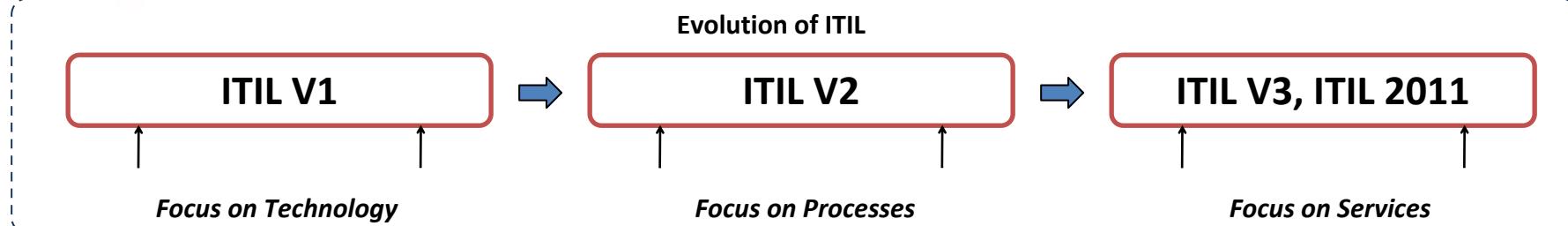
The IT Infrastructure Library (ITIL) is the world's most widely accepted approach to the management and delivery of IT Services.

ITIL provides a practical framework for identifying, planning, delivering and supporting IT services to the business.

Successful introduction of IT Service Management with ITIL should deliver the following benefits:

- Consistent processes across service Lines
- Improved quality of service through proven processes and best practices
- Improved customer satisfaction through a more professional approach to service delivery
- Reduced cost of training and hidden costs
- Increased competence, capability and productivity of IT staff.
- Common language across service delivery with well defined terms
- Improved decision making and optimized risk
- Improved systems/ applications availability and reduced cost / incident.

Background of ITIL



ITIL® V1 came along in 1985

- Voluminous - 31 Books

ITIL® V2 came along in 2000-2004

- Large and complex - 7 Books with 2 core volumes **on Service Support and Service Delivery**
- Talks about **What** you should do (**Descriptive**) and not **How**

ITIL® V3 in 2007

- Simplified and rationalised to 5 books
- Clear guidance on **How** to provide a service (**Prescriptive**)
- Provides tactical and operational guidance
- Gives more prominence to Strategy relevant to Senior Staff
- Aligned with ISO20000 standard for Service Management
- More modular accreditation paths

ITIL® 2011

- Just an update to ITIL V3 – Suggestions raised by ITIL trainers & changes to the terminologies

Service Management

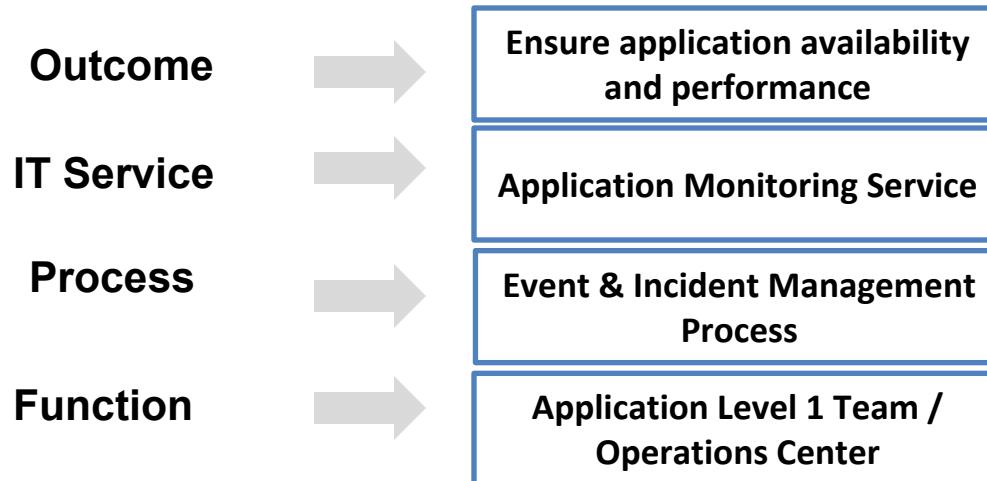


Service is a means of delivering value to customers by facilitating **OUTCOMES** the customers want to achieve without the ownership of specific costs and risks.

Service Management is a set of specialized organizational capabilities for providing value to customers in the form of “SERVICES”. It includes Definition of Processes and Functions for managing the SERVICES over their Lifecycle. **ITIL®** is a framework for IT Service Management

Process is a set of activities designed to accomplish a specific **OUTCOME**. A process takes defined inputs and turns them into defined outputs. A process may include roles, responsibilities, tools and management controls required to deliver the outputs.

Function is a team or group of people and the tools they use to carry out one or more processes to deliver the Service and its stated **OUTCOME**.



ITIL Service Lifecycle Phases

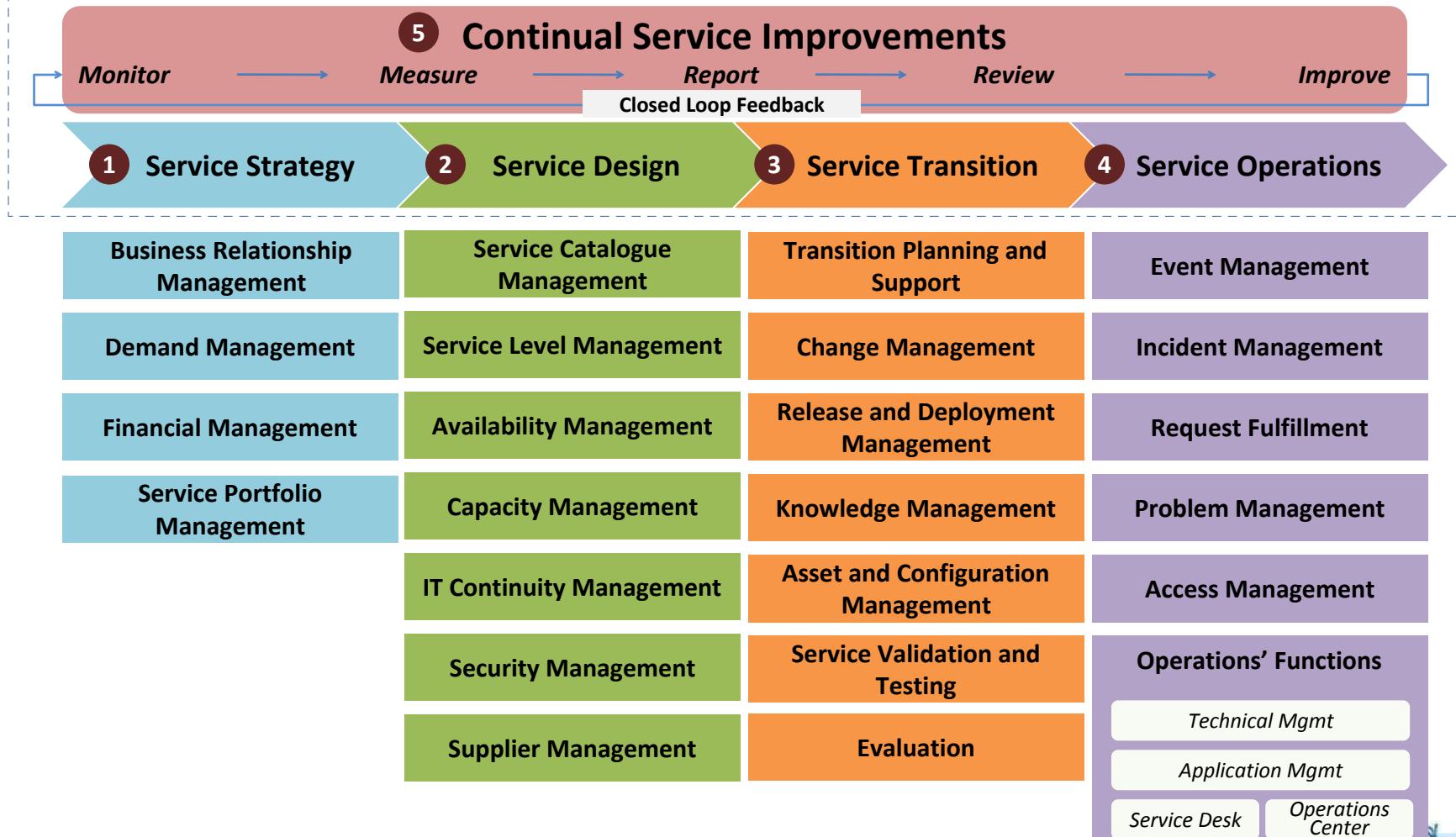
The **core** of ITIL® is structured around a **Service Lifecycle** which consists of the **Five Phases** as shown in the picture below. The Service Lifecycle organizes activity around services as the services move from concept through the live environment and into retirement. The ITIL® ‘core’ documentation consists of five volumes representing each of the phases of the Service Lifecycle.



ITIL Service Lifecycle Processes



ITIL v3 Service Lifecycle Phases



Service Strategy



Service Strategy is about the selection of services a service provider will offer to its customers.

Service Strategy is also about establishment and management of the broadest policies and standards which govern the way a service provider operates. Services are selected so that they:

- Provide value to customers
- Enable the Service Provider to capture value
- Fall within cost parameters acceptable to the service provider
- Fall with risk parameters acceptable to the service provider

Business Value: Service Strategy offers value to service providers and customers by

- Ensuring that the services they offer provides value and aligns with business objectives
- Ensuring that customers can be charged for the services or that some mechanism exists by which the services allow the value offered by the service provider to be recognized.
- Ensuring that the service provider is in a position to handle the costs and risks associated with the services it offers.

Key concepts:

Utility and Warranty, Value Creation, resources, capabilities, assets

Activities:

- Define the Market :- Identify market space & customers
- Develop the offerings :- Formulate services
- Develop strategic assets :- Develop capabilities
- Prepare for execution :- Ensure all aspects to proceed

Service Strategy Processes



Business Relationship Management

- Establish and maintain business relationship between service provider and customer
- Ensure that the service provider is able to meet customers' needs as business needs change over time
- Work with customer to ensure services are able to deliver value and by customer satisfaction

Service Portfolio Management (SPM)

- Decide what services to offer
- Understand :
 - Why should a customer buy these services?
 - Why should they buy these services from us?
- Provide direction to Service Design so they can manage and fully exploit the services into the future

Demand Management

- Ensures we don't waste money with excess capacity
- Ensures we have enough capacity to meet demand at agreed quality
- Patterns of Business Activity to be considered

Financial Management

- Reviews all revenue and cost projections associated with application support team
- Create a financial model (budget vs. actual) that will show application support team's financial performance.
- Financial compliance and control

Service Design



Service Design lifecycle phase is about the design of services and all supporting elements for introduction into the live environment

Business Value: Service Design offers value by

- Ensuring that services are aligned with business objectives
- Ensuring that services are able to provide the utility and warranty required for them to meet the objectives outlined during Service Strategy
- Ensuring that service management systems and tools are capable of supporting service offerings
- Ensuring that service management processes are capable of supporting service offerings
- Ensuring that services are constructed according to agreed architectural standards
- Ensuring that services are designed so as to be implemented efficiently
- Ensuring that services are designed so that their performance can be measured

Key concepts:

- Four Ps – People, Process, Product and Partner, Aspects of Service design, RACI model – Responsible, Accountable, Consulted and Informed Matrix



Service Design Processes

Service Catalog Management(SCM):

Activities:

- Definition of the service
- Production and maintenance of service catalog(single source of consistent information on all of the agreed services)
- Interface between Service Catalog & Service Portfolio

Service Level Management(SLM):

Activities:

- Design SLA frameworks
- Identify Service Level Requirements (SLRs):
- Agree and document Service Level Agreements (SLAs)
- Negotiate and document Operational Level Agreements (OLAs) and underpinning Contracts (UCs)
- Monitor service performance against SLA
- Measure and improve Customer Satisfaction
- Review and revise underpinning agreements and service scope
- Conduct service reviews and instigate improvements
- Review and revise SLAs, OLAs, and UCs
- Develop contracts and relationships
- Manage complaints and compliments

Service Design Processes



Availability Management:

Key concepts: Availability, Reliability, Maintainability, Serviceability

Activities:

- Ensure agreed levels of application availability is provided
- Assess impact of changes on the application availability, performance & capacity
- Provide cost effective availability improvement that can deliver business and customer benefits
- Produce and maintain an up-to-date availability plan

Information Security Management

- Information is available and usable when required systems are secured (availability)
- Information is only available for those who have a right to know (Confidentiality)
- Information is complete, accurate and protected against unauthorized modification (integrity)
- Business transactions and information exchanges can be trusted (authenticity and non repudiation)

Capacity Management

- Balancing costs against resources needed
- Balancing supply against demand
- Should be involved at all stages of the lifecycle
- Forward looking, regularly updated Capacity Plan

IT Service Continuity Management

- Backup and restore of critical application components
- Conduct Business Impact Analysis (BIA) of applications and identification of applications priority.
- Conduct applications recoverability assessment
- Review the developed business contingency plan from applications perspective.



Service Transition

Service Transition is concerned with management of change and, more specifically, with the introduction of new and changed services into the live environment.

Business Value: Service Transition provides value to the business by

- Enabling business change
- Minimizing impact to the business which might otherwise result from unmanaged change
- Enabling the business to make use of new and changed services
- Ensuring that designs for services are implemented as intended
- Ensuring that the Service Management organization is prepared to support new and changed services
- Reducing the number of defects introduced into the live environment

Change Types:

Normal

- Non-urgent, requires approval

Standard

- Non-urgent, follows established path, no approval needed

Emergency

- Requires approval but too urgent for normal procedure

Service Transition Processes



Service Asset and Configuration

- Provides Logical Model of Infrastructure and Accurate Configuration information
- Controls assets
- Focus on Minimizing costs
- Enables proper change and release management
- Speeds incident and problem resolution.

Change Advisory Board

- Change Manager (VITAL)
- One or more of
 - Customer/User
 - User Manager
 - Developer/Maintainer
 - Expert/Consultant
 - Contractor
- CAB considers the 7 R - Who RAISED?, REASON, RETURN, RISKS, RESOURCES, RESPONSIBLE, RELATIONSHIPS to other changes.

Release and Deployment Management

- Ensures for clear and comprehensive release and deployment plans
- Defines release packages
- Minimizes unpredicted impact on production services

Service Operation



Service Operation phase is concerned with ensuring that services operate within agreed parameters. When service interruptions do occur, Service Operation is charged with restoring service as quickly as possible and with minimizing the impact to the business.

Business Value:

Service Operation is the only lifecycle phase in which value is actually realized by customers. Whereas all other phases of the Service Lifecycle contribute to and enable value, it is only experienced during Service Operation.

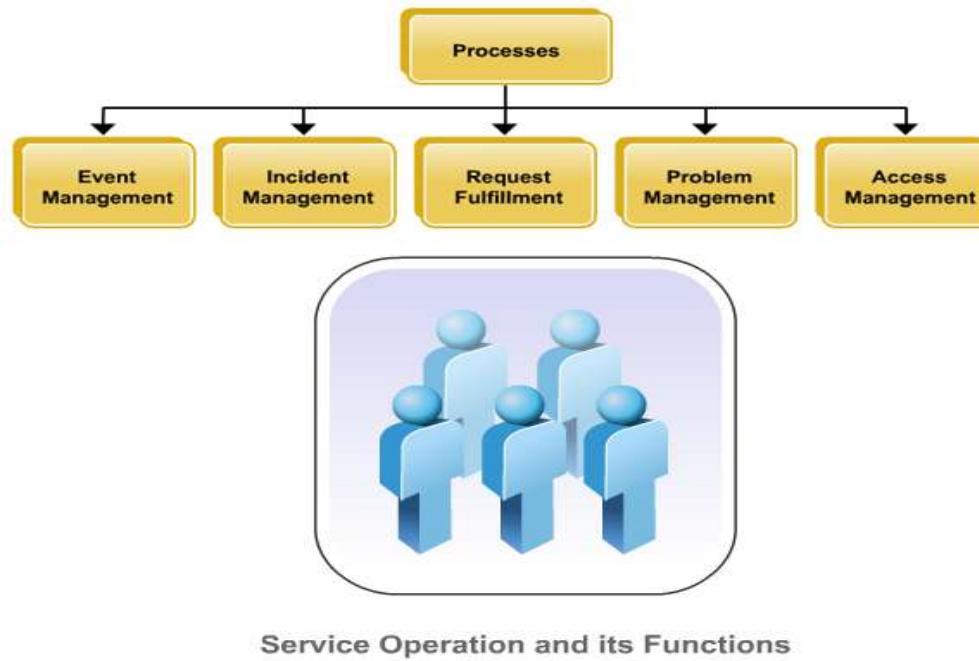
Service Operation also adds business value by:

- Ensuring that services are operated within expected performance parameters
- Restoring services quickly in the event of service interruption
- Minimizing impact to the business in the event of service interruption
- Providing a focal point for communication between users and the Service Provider organization

Activities:

- ◆ Coordinate and carry-out day-to-day activities and processes to deliver and manage services at agreed levels.
- ◆ Ongoing management of the technology that is used to deliver and support services
- ◆ Where the plans, designs and optimizations are executed and measured

Service Operation Processes



Incident Management

Restore normal service operation as quickly as possible and minimize adverse impact on the business

- ◆ Deals with unplanned interruptions to IT Services or reductions in their quality.
- ◆ Failure of a configuration item that has not impacted a service is also an incident (e.g. Disk in RAID failure)

Event Management

Managing events throughout their Lifecycle

3 Types of events – Information, Warning, Exception

Service Operation Processes



Request Fulfilment

To provide a channel for users to request and receive standard services for which a pre defined approval and qualification process exists

- ◆ A request from a User for information or advice, data
- ◆ Should not be classed as Incidents or Changes

Problem Management

- ◆ Aims to prevent problems and resulting incidents
- ◆ Minimizes impact of unavoidable incidents
- ◆ Eliminates recurring incidents
- ◆ Proactive Problem Management
 - ◆ Identifies areas of potential weakness
 - ◆ Identifies workarounds
- ◆ Reactive Problem Management
 - ◆ Identifies underlying causes of incidents
 - ◆ Identifies changes to prevent recurrence

Access Management

Granting authorized users the right to use a service

- ◆ Right things for right users at right time(Access)
- ◆ Identity (Authentication)
- ◆ Rights (Authorization)

Continual Service Improvement (CSI)

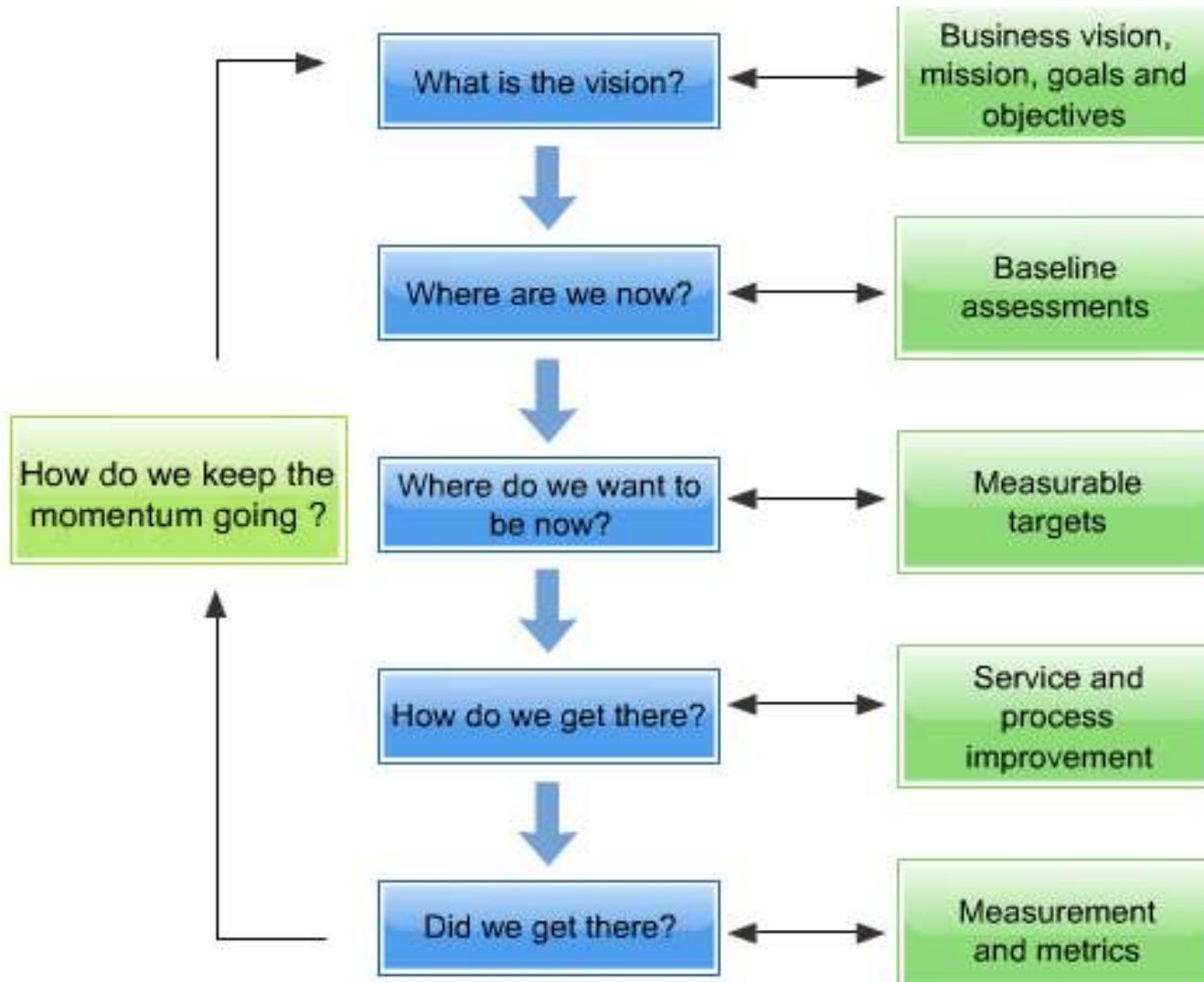


Continual Service Improvement is about the alignment and re-alignment of services, processes, functions, etc. with changing business needs. It is also concerned with the consistent application of quality management methods to the overall Service Management effort.

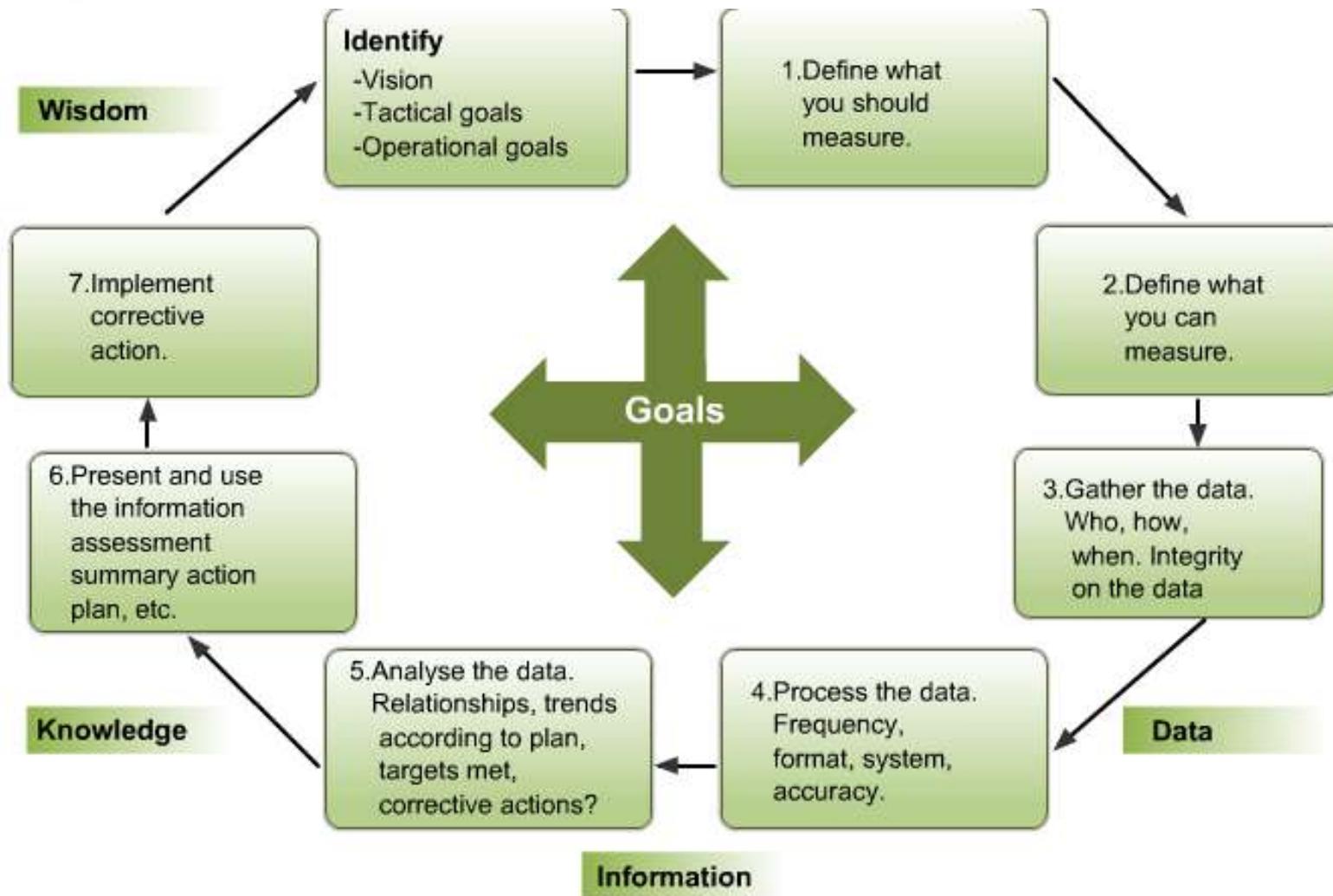
Business Value: Continual Service Improvement offers value to service provider and customer organizations by:

- Ensuring that services, processes, and other aspects of the Service Management effort are aligned with business objectives
- Ensuring that services meet agreed levels of performance
- Ensuring that the efficiency (cost) of service delivery improves steadily
- Ensuring that all aspects of the Service Management effort undergo regular and consistent reviews

Continual Service Improvement Approach



7 Step Improvement Process



ITIL Vs. AVM

Service Strategy

- Application Support Strategy
- Services to be provided
- Financial Planning

Service Design

- Application profiling
- Operating Model and Processes
- Service Catalogue, SOW, SLAs, OLAs
- Tools and Team structure

Service Transition

- Transition Planning
- KT for existing portfolios and new services
- Operations Hand Book, Application Inventory & Knowledge Articles
- Service Validation

Service Operation

- Availability and performance Monitoring (Events)
- Application Fixes (Incidents)
- Trends and RCAs (Problems)
- Queries, Clarification, access (Service Requests)

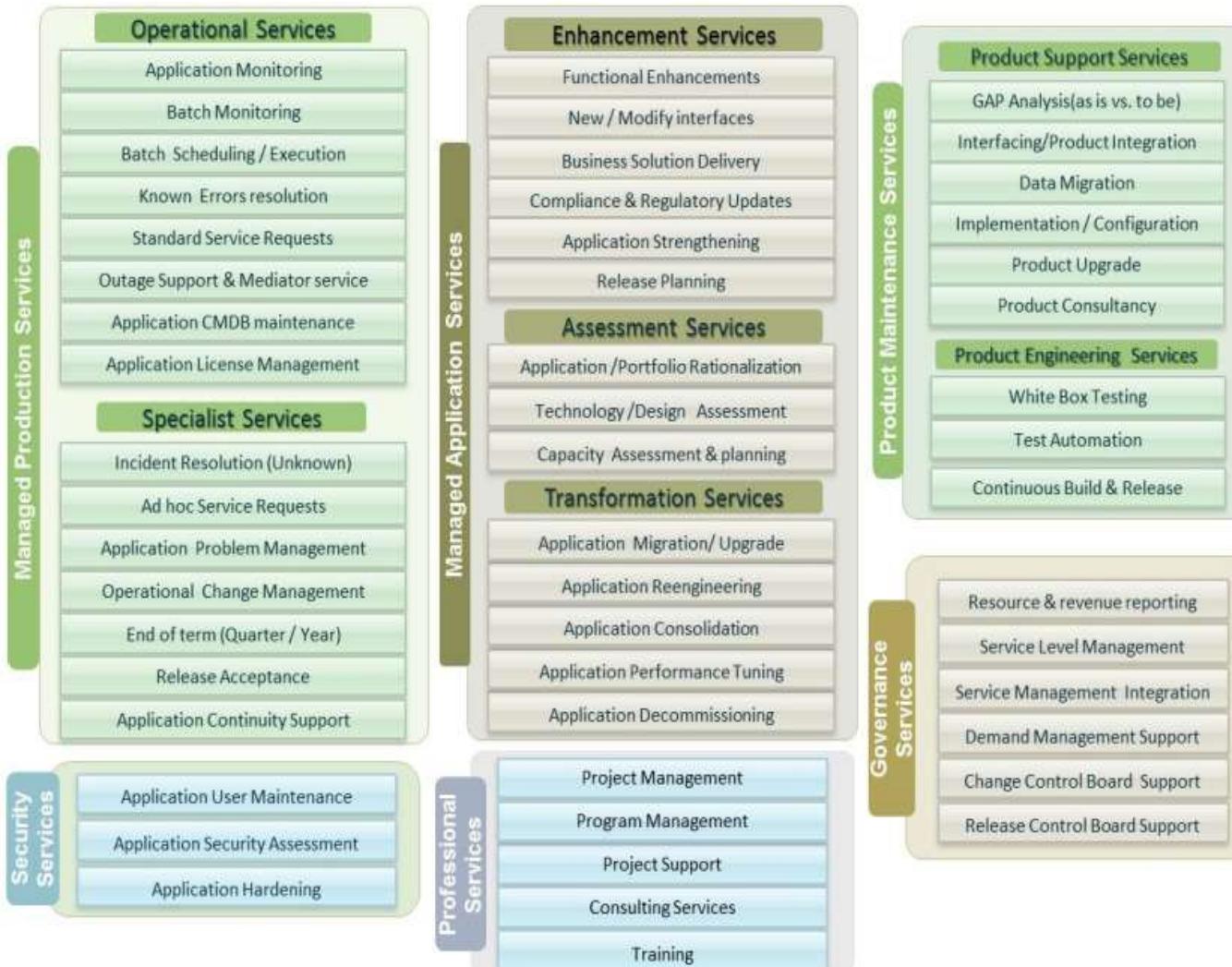
Continual Service Improvement

Service and Process Improvements

Legacy AVM Vs. ITIL Vs. AVM Managed Services Catalog



ITIL aligned AVM Managed Services Catalog



Key Topics as a part of the Catalog

- Service description
- Outcomes
- Activities
- Service initiation
- Tools
- Customer responsibilities
- Service Levels
- Service reporting
- Process Overview
- Service Coverage
- Effort drivers
- Price drivers
- Applicable pricing models

Service Outcome aligned measures



Check Your Understanding

What is ITIL?

[Ans] ITIL is the most widely adopted approach for IT Service Management in the world.

What version of ITIL is currently in use?

[Ans] ITIL 2011

What is Service Management?

[Ans] Service Management is a set of specialized organizational capabilities for providing value to customers in the form of “SERVICES”

What is a Service?

[Ans] Service is a means of delivering value to customers by facilitating OUTCOMES the customers want to achieve without the ownership of specific costs and risks.

What are the different phases in ITIL Service Lifecycle?

[Ans] Service Strategy, Service Design, Service Transition, Service Operation, Continual Service Improvement

In which phase are the value of services actually realized by a customer?

[Ans] Service Operation Phase

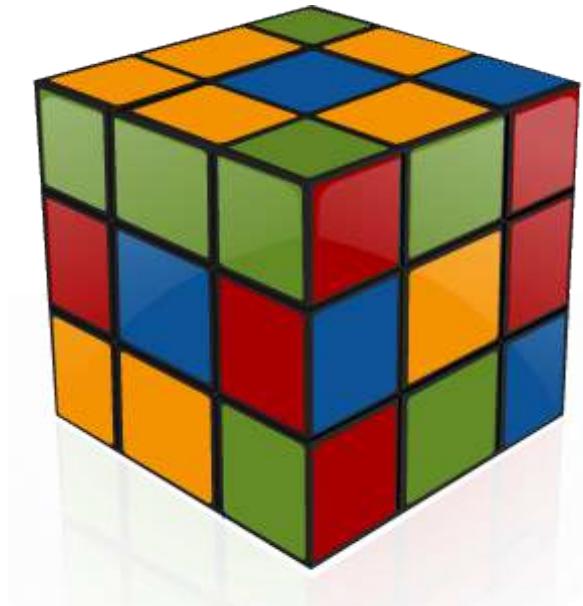
Continual Service Improvement (CSI) deals with bringing in Improvements only in the Service Operation phase. State TRUE or FALSE.

[Ans] FALSE, CSI aims at bringing in improvements in all phases of the Service Lifecycle



Summary

- Why ITIL?
- Background of ITIL
- Service Management
- ITIL Service Lifecycle Phases
- ITIL Service Lifecycle Processes
- Overview of ITIL Phases
- AVM Vs. ITIL
- ITIL Aligned Managed Services Catalog



AVM Service Line

You have successfully completed -
ITIL Fundamentals



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

Service Based Delivery



LEVEL – LEARNER



Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



This session is for the Entry Level Trainees to help them understand the Service Based Delivery in AVM



Objective

What is a Service?

What is Service Catalog?

Challenges in AVM

What is Service Based Delivery?

Benefits of Service Based Delivery

Service Catalog Approach in AVM

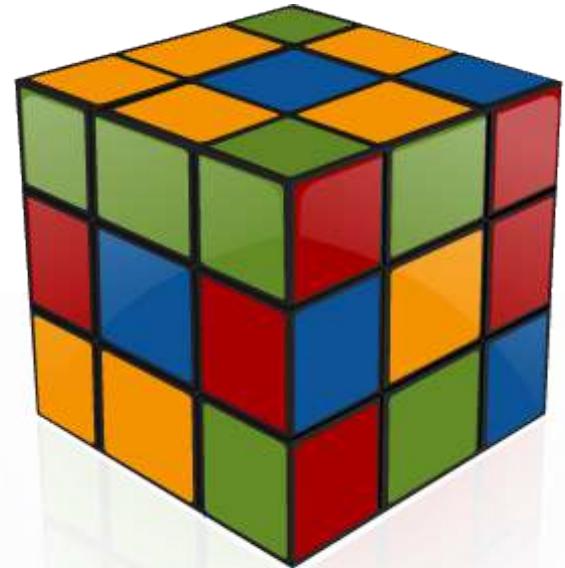
AVM Managed Services Catalog – ITIL Aligned

Master Services in a Service Catalog

Legacy AVM to AVM Managed Services

Relationship between various Support Levels vs Services

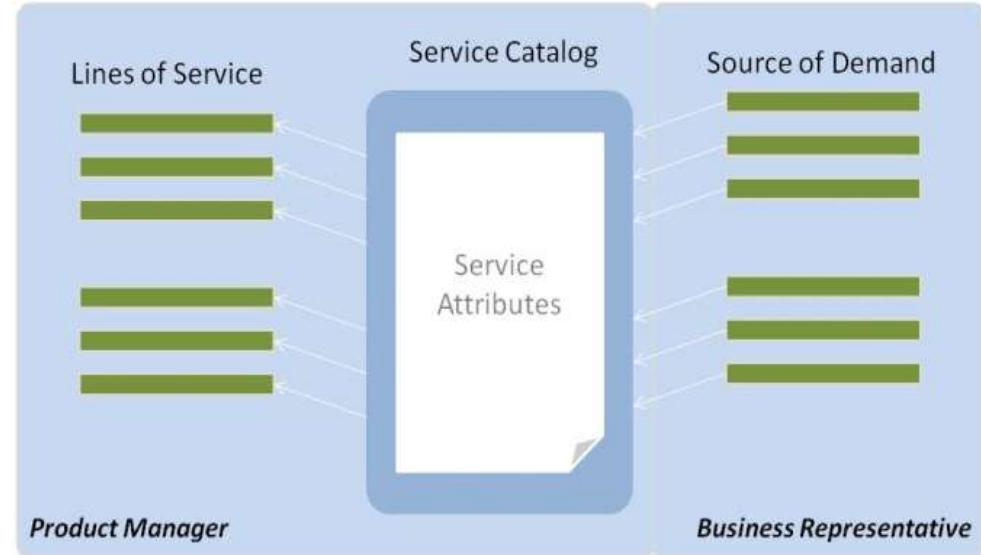
Services by Support Levels – L0, L1, L2, L3 and L4



What is a Service and a Service Catalog?

What is a **Service**?

A ‘service’ is a means of delivering **value** to customers by facilitating **outcomes** that customers want to achieve without the ownership of specific costs and risks.



What is **Service Catalog**?

Service Catalog is list of services an Organization offers to its customers along with information about activities, processes, price, reporting, service coverage, metrics, tools etc.

Challenges in AVM prior to Service Catalog Approach

Prior to Service Catalog approach, AVM projects faced the below challenges -

- Deliveries made within the engagement were not standardized. They were Ad-hoc, changing time to time based on customer's requirements.
- Lack of service information
- Tools used were inconsistent across projects
- Metrics measured and reported were inconsistent across projects
- Inefficient processes leading to lesser productivity and increased support costs
- Insufficient Knowledge Sharing
- Continual Service Improvements not emphasized
- Inefficient support structure



Service Based Delivery



SERVICE BASED DELIVERY

What is “Service Based Delivery”?

Service Based Delivery means

- Defining what services are to be delivered and delivering what is defined
- In scope and Out of scope is clearly demarcated
- Service Ownership with defined service levels
- Clearly defined activities, processes, outcomes, metrics and tools for each service
- Backed up with standard support structure with pricing options

CONSISTENCY is key



Service Catalog Approach in AVM



Industry Challenges

Lack of service information



Inefficient processes



Disparate tools



Inconsistent service levels



Services not measured



Lack of knowledge sharing



Lack of continual improvements



Inefficient support structure



Rising support costs



Service Catalog approach

The necessity is to have a..

Master list of services with activities, processes, metrics & tools

Guidance on standard support structure with pricing options

Creation of Enterprise Service Catalog

Enterprise knowledge platform with focus on innovation



Benefits

Consolidation and standardization of services

Accelerated business development activities (proposal response, solution envisioning etc.)

Improve Service Delivery Quality through guidance metrics and measurement

Improved efficiencies through "Shift Left"

Service Ownership with defined Service Levels

Increased technology /process automation resulting in efficiency gains

AVM Managed Services Catalog – ITIL Aligned

Managed Production Services

Operational Services

- Application Monitoring
- Batch Monitoring
- Batch Scheduling / Execution
- Known Errors resolution
- Standard Service Requests
- Outage Support & Mediator service
- Application CMDB maintenance
- Application License Management

Specialist Services

- Incident Resolution (Unknown)
- Ad hoc Service Requests
- Application Problem Management
- Operational Change Management
- End of term (Quarter / Year)
- Release Acceptance
- Application Continuity Support

Security Services

- Application User Maintenance
- Application Security Assessment
- Application Hardening

Managed Application Services

Enhancement Services

- Functional Enhancements
- New / Modify interfaces
- Business Solution Delivery
- Compliance & Regulatory Updates
- Application Strengthening
- Release Planning

Assessment Services

- Application /Portfolio Rationalization
- Technology /Design Assessment
- Capacity Assessment & planning

Transformation Services

- Application Migration/ Upgrade
- Application Reengineering
- Application Consolidation
- Application Performance Tuning
- Application Decommissioning

Professional Services

- Project Management
- Program Management
- Project Support
- Consulting Services
- Training

Product Maintenance Services

Product Support Services

- GAP Analysis(as is vs. to be)
- Interfacing/Product Integration
- Data Migration
- Implementation / Configuration
- Product Upgrade
- Product Consultancy

Product Engineering Services

- White Box Testing
- Test Automation
- Continuous Build & Release

Governance Services

- Resource & revenue reporting
- Service Level Management
- Service Management Integration
- Demand Management Support
- Change Control Board Support
- Release Control Board Support

Service Outcome aligned measures

Master Services in a Service Catalog

Managed Production Services(MPS) supports client's production environment and ensures availability & serviceability of client's business systems. MPS team proactively monitors and tracks all events within the Managed Services environment, managing exception handling, escalation and resolution for all application issues.

MPS primarily focuses on long-term functionality, stability and preventive maintenance to avoid problems that typically arise from incomplete or short-term solutions.

Managed Application Services(MAS) support clients' Application Portfolio and ensure maintainability of client's business systems. MAS team proactively analyze, optimize and improve maintainability of applications within the Managed Services environment, managing proactive, adaptive and perfective maintenance.

Master Services in a Service Catalog (Contd.)



Governance Services supports the overall project governance by maintaining and improving the IT service quality, by able to deliver service management across multi vendor engagements, by convening Control Boards for Change and Release and by performing Demand Management, Revenue and Resource Reporting to clients

Security Services support clients along the lines of granting access to users/preventing unauthorized access, assessment of the application security and securing the applications against possible vulnerabilities by enhancing the security controls and processes

Professional Services support clients in terms of managing the project or the entire portfolio of applications. Also deals with providing Consulting and Training services to the client

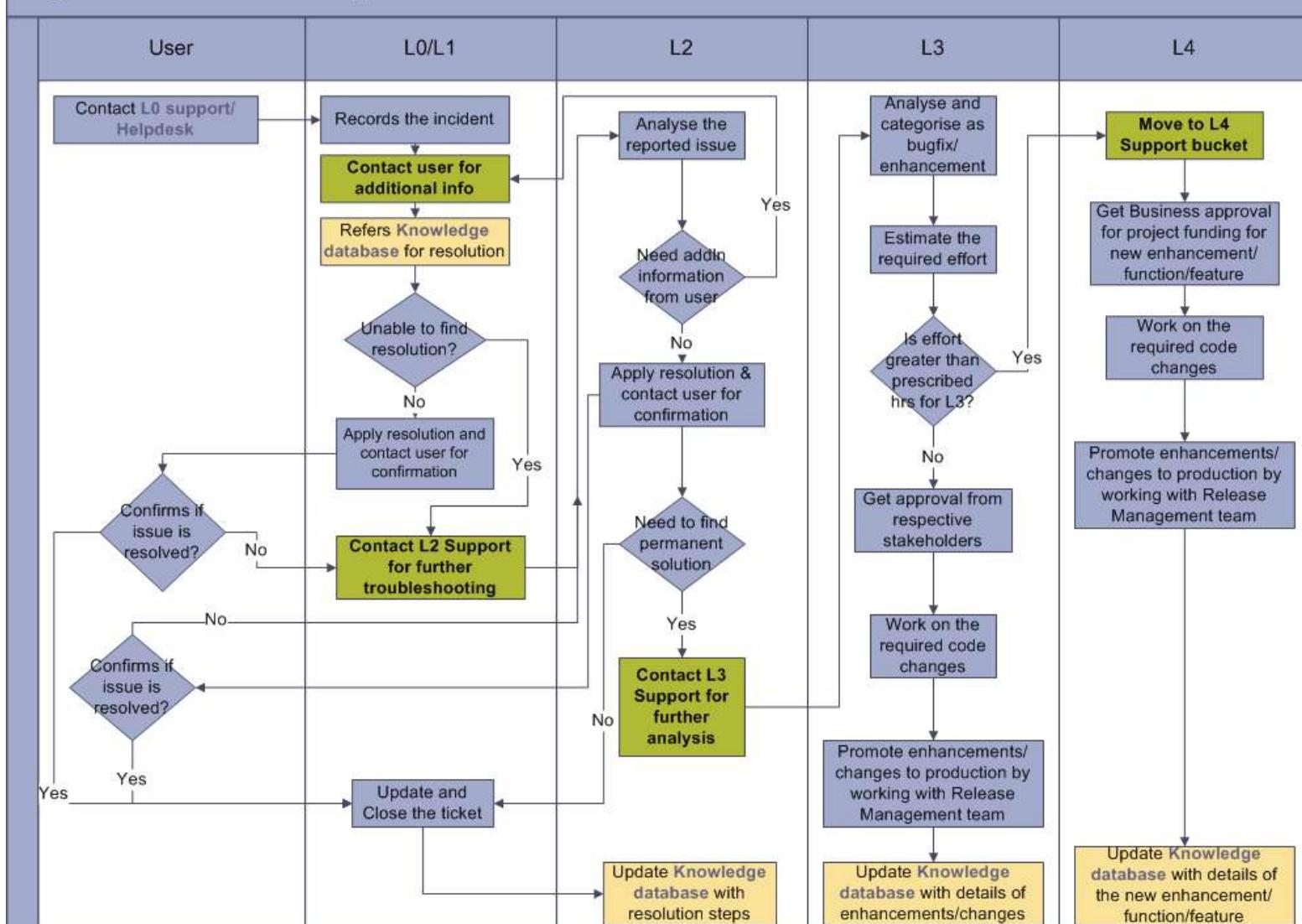
Product Services support clients on Product Support such as Product Upgrade, Integration, Consultancy, Data Migration and also with Product Engineering services such as Build & Release, Testing, Automation etc.

Legacy AVM to AVM Managed Services



Integration between various Support Levels

Integration between Various Support Levels

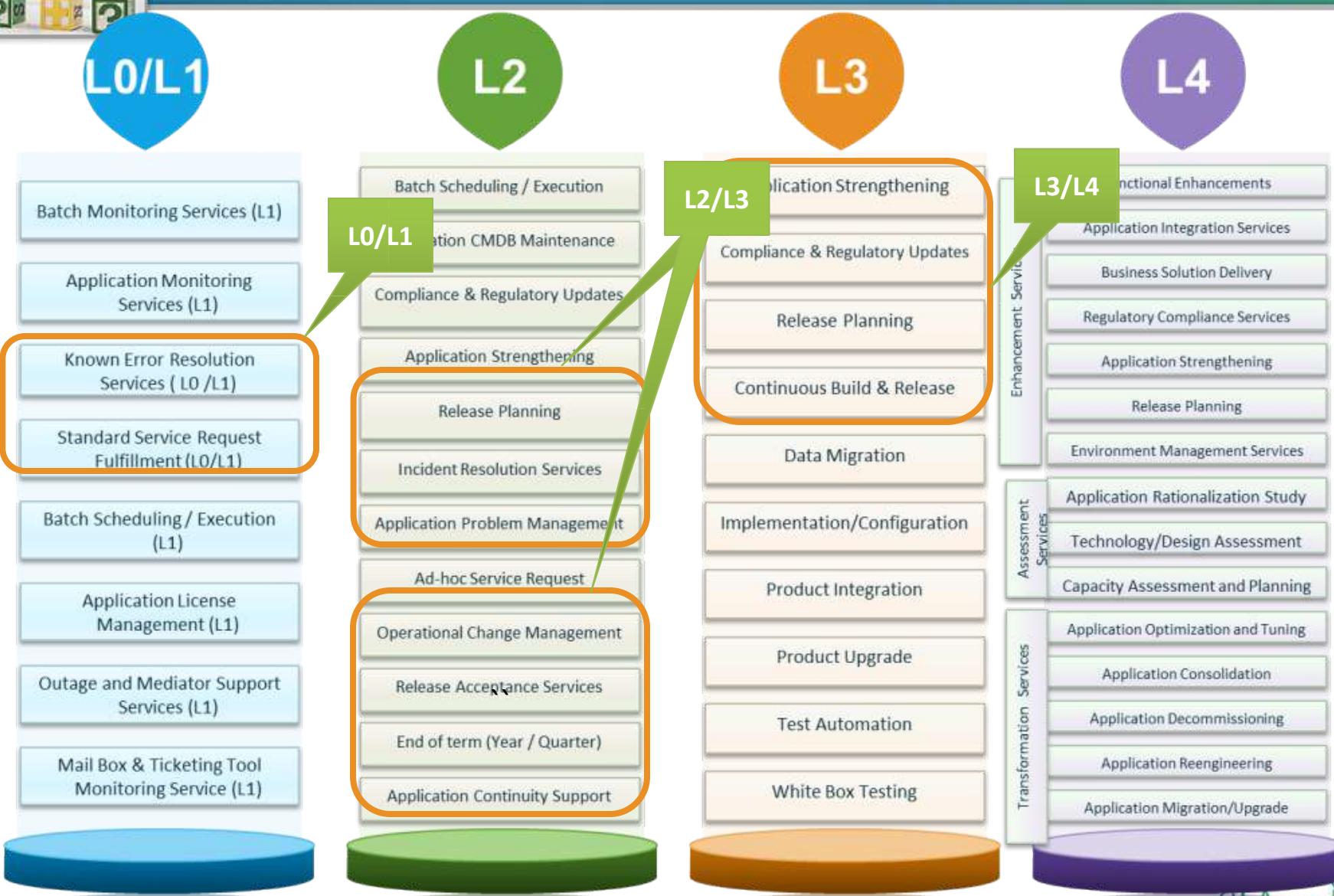




Relationship between various Support Levels vs Services

- In an ideal scenario, client organizations have well defined L0, L1, L2, L3 and L4 support groups. In such cases, well defined roles & responsibilities and clear demarcation of the activities performed are available for each of these groups.
- However, in most client IT organizations there are overlap between L0, L1, L2, L3 and L4 support functions, roles & responsibilities. In such cases, the Cognizant Service Catalog helps to clearly define the L0, L1, L2, L3 and L4 services in a standardized manner.
- In following slide, the service mapping to support levels is depicted as per ideal scenario but there could be overlap during actual implementation in client's IT organization depending business priority/resources availability/ shared services

Services by Support Levels – L0, L1, L2, L3 and L4





Check Your Understanding



What is a Service?

[Ans] A ‘service’ is a means of delivering value to customers by facilitating outcomes that customers want to achieve without the ownership of specific costs and risks.

What is a Service Catalog?

[Ans] Service Catalog is list of services an Organization offers to its customers along with information about activities, processes, price, reporting, service coverage, metrics, tools etc.

What is Service Based Delivery?

[Ans] Defining what services are to be delivered and delivering what is defined

Which are different types of monitoring services generally performed by L1 support?

[Ans] Batch Monitoring Service, Application Monitoring Services and Mail Box & Ticketing Tool Monitoring Service

Does different support level groups – L0, L1, L2, L3, L4 perform distinct services without any overlap of roles & responsibilities in client IT organizations. State TRUE or FALSE.

[Ans] FALSE

Which set of services supports client’s production environment and ensures availability & serviceability of client’s business systems?

[Ans] Managed Production Services(MPS)

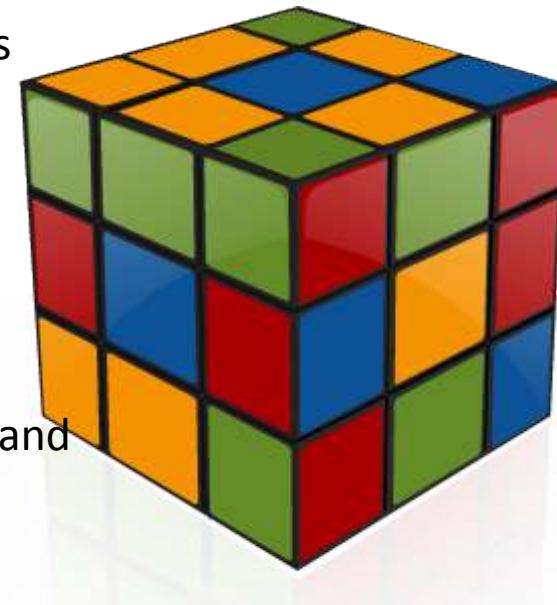
Applications Services such as Functional Enhancements, Release Planning, Application Strengthening are performed by which support group?

[Ans] L4 support



Summary

- Understand the meaning of Service and Service Catalog
- Understand the Challenges in Traditional AVM Model
- Explain Service Based Delivery and its benefits
- Explain Service Catalog Approach in AVM
- Explain how the AVM Managed Services Catalog is aligned with ITIL Framework
- Describe the Master Services in a Service Catalog
- Compare Legacy AVM to AVM Managed Services
- Understand the Relationship between various Support Levels vs Services
- Explain Services by Support Levels – L0, L1, L2, L3 and L4



AVM Service Line

You have successfully completed -
Service Based Delivery



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

L0/L1 Support and Service Based Delivery

LEVEL – LEARNER



Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



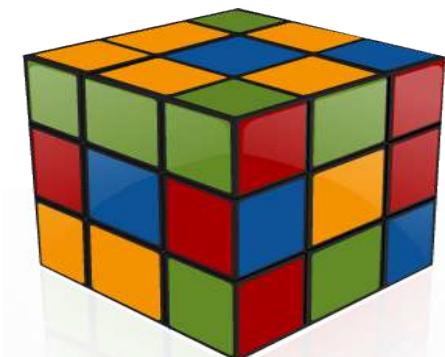
This session is to help Entry Level Trainees to understand what is L0/L1 support and the services rendered by L0/L1 support



Objective

After completing this chapter, you will be able to explain:

- Explain L0/L1 support
 - Service Desk Support Model
 - Types of Service Desk
 - Integration between various Support Levels
 - L0/L1 – Types of Support and Skills required
 - Main functions of L0/L1
 - Services rendered by L0/L1
 - Batch Monitoring Services
 - Application Monitoring Services
 - Known Error Resolution Services
 - Standard Service Request Fulfillment
 - Batch Scheduling/execution
 - Application License Management
 - Outage and Mediator Support Services
 - Mail box & Ticketing Tool Monitoring Service



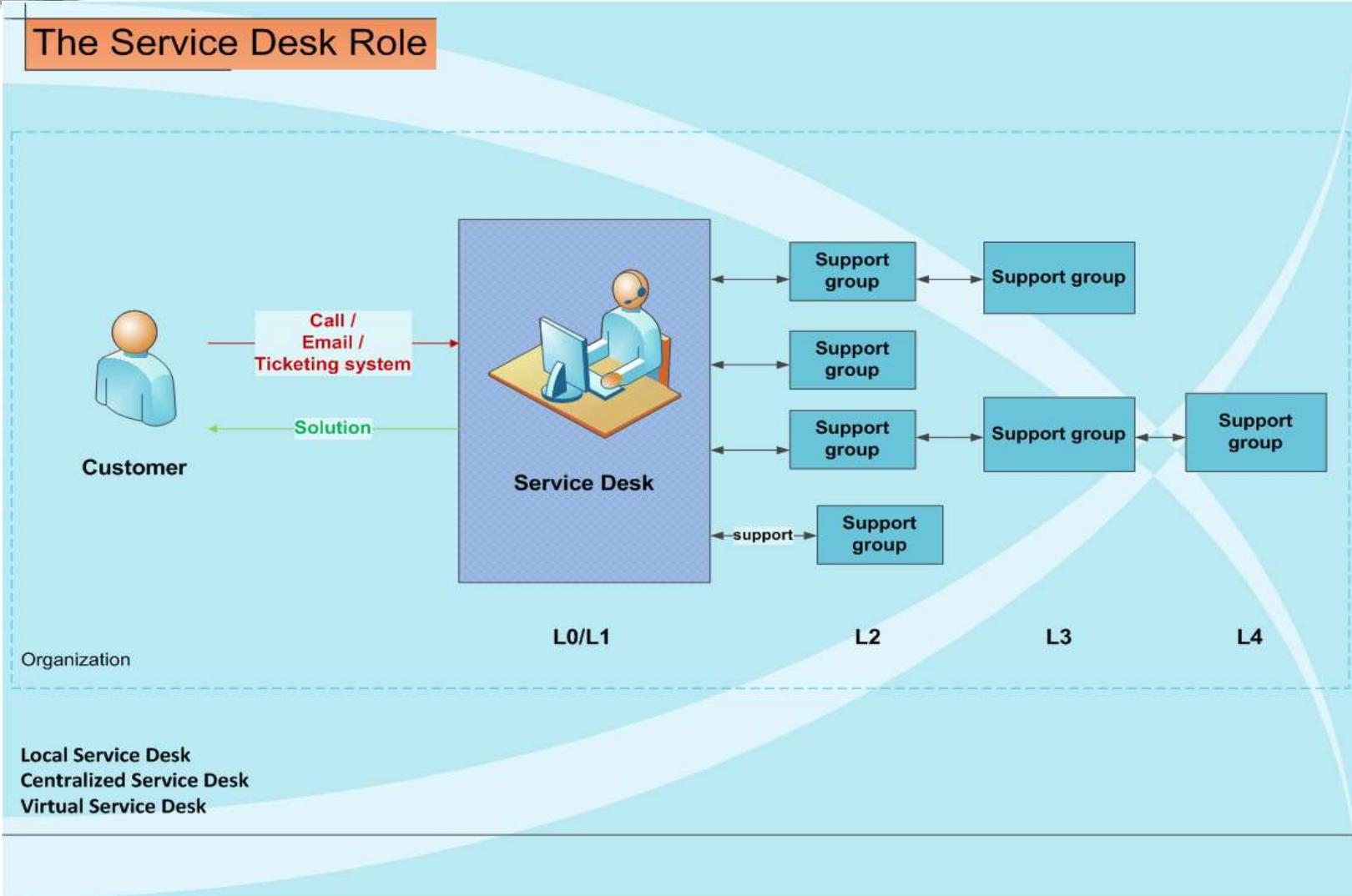
L0/L1 Support

- L0 Support can also called as **Service Desk**, is treated as the first level of reporting of an incident . The Service Desk offers "**first line**" support to users. Users need help if they are not sure how to behave in a specific situation when using IT services or when they need assistance to solve a particular issue involving business transactions based on IT, reach out to L0 Support/Service Desk.
- **L0 support is primarily facing business user**, i.e. where users always directly get in touch with L0 team for any issues or clarifications, but where **as L1 support is system facing** (mail/ticketing tool monitoring, batch monitoring, etc.,) or **facing the IT department**. When there is both customer facing and system/IT dept facing, then a combination L0/L1 support will be used
- L0 and L1 support team work on incidents and request fulfillments.
- Customer support service desk provides L0 support. For example, you call up ESA Application Support (EAS) when you are unable to enroll for a course in Enterprise Learning Management(ELM) system. EAS provides the L0 support to Cognizant Associate(s)

Service Desk Model



The Service Desk Role



Types of Service Desk



A Service desk can be structured in one of the three ways depending on user presence or resolver group presence

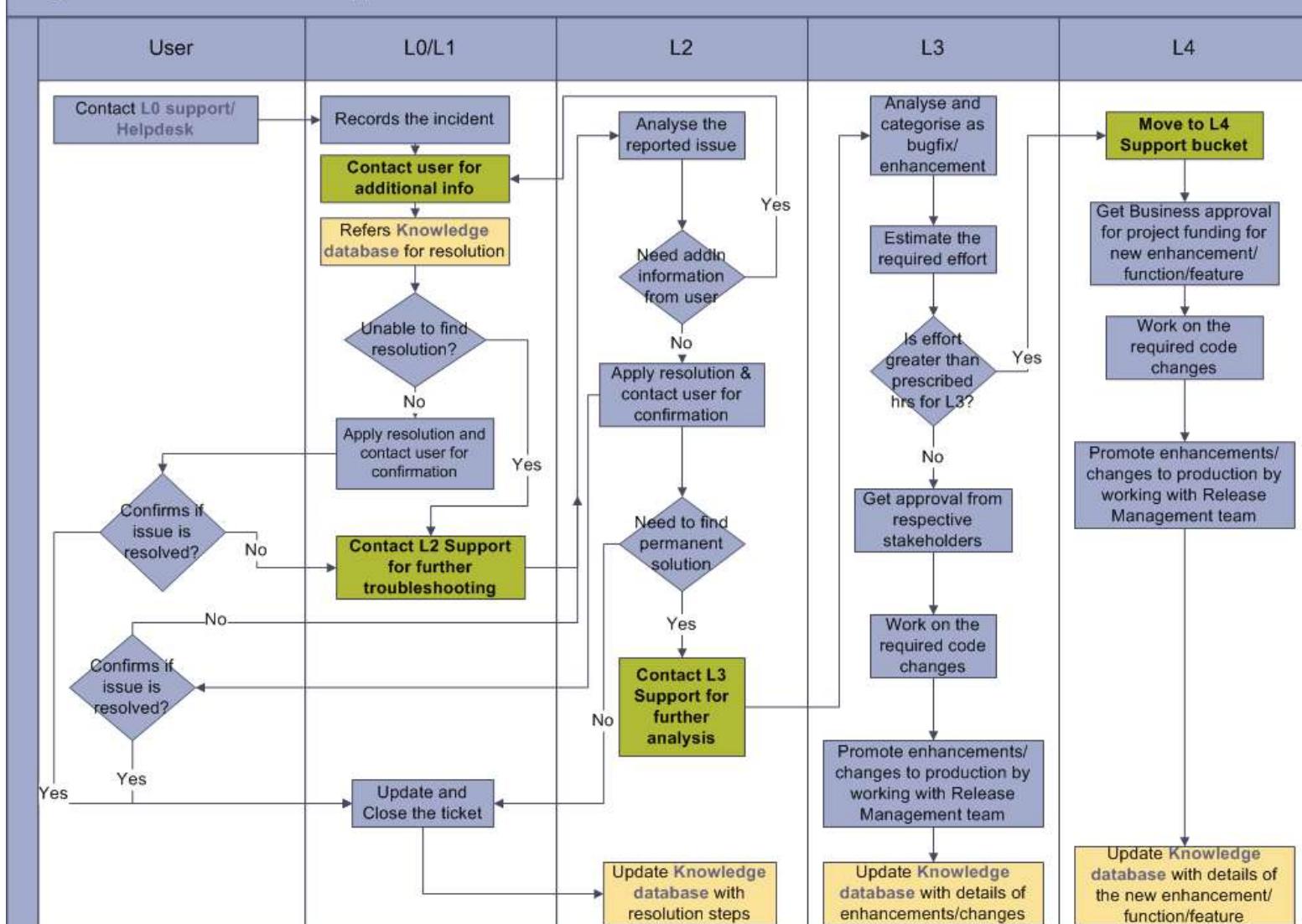
The Local Service Desk - Local Service desk is Very "visible" to the organization. The Service Desk is most probably in the same building or locality as the users of the IT Services. The advantage of this concept is the fact that Service Desk staffs are very well versed with the local situation and local conditions.

Centralized Service Desk - A centralized Service Desk is a physical point in one location. All users from the different sites contact this one Service Desk. This model leads to a reduction in operational costs, easier management of the IT Service and better use of Resources.

Virtual Service Desk - Due to advanced network and telecom technologies it is now possible to have a Service Desk that has no physical location as far as the user is concerned. It might be staffed in different locations at different times during a day resulting in a 24 hour Service Desk. The issue to consider is the need for a physical engineer at the various locations to solve local incidents. Also time differences have to be taken in consideration when setting up Service Level Agreements

Integration between Support Levels

Integration between Various Support Levels



L0/L1: Types of Support and Skills Required



Types of Support:

- Voice Support, Email Support, Ticket Handling on the Ticketing Tool, Standard Training Support, Resolution support based on standard FAQ

Skills Required:

- Good communication skills, verbal and written, is a must.
- Knowledge on the Ticketing tool used is required
- Knowledge on the Application is required, for which the L0/L1 support is being provided

L0/L1 Support – Main Activities

■ **Main Activities of L0/L1 Support team**

- Receive all calls and e-mails on incidents and service requests
- Incident recording
- Incident Classification
- Incident Prioritization
- Incident Escalation
- Search for Work Around
- Update the customer and IT group on progress
- Incident Closure upon User Confirmation
- Standard Request Fulfillment
- Perform communication activities for the other ITIL processes (e.g. Release notifications, change schedules, SLM-reports)

Services Rendered by L0/L1 Support



Application Monitoring Service



Definition

- Application monitoring service helps businesses to ensure high availability and performance for client's business applications.
- Overall goal of the service is to reduce down time of the clients business systems

Activities

- Ensuring availability of applications, related interfaces and infrastructure
- Ensure availability of related databases
- Ensure performance is within acceptable levels
- In case infrastructure service is provided by other service provider: Raise Incident with the relevant service provider in case of an infrastructure issue

Service Benefits

- Reduced downtime through monitoring availability and performance of applications
- Resolution of incidents before it can impact the business (proactive detection and resolution)
- Move from reactive to proactive Service Delivery
- Improved Business Satisfaction

Mailbox & Ticketing Tool Monitoring Service



Definition

- Mail box monitoring service monitors identified mail boxes and classify them as Batch Job related, other errors & user originated emails.
- Service also focuses on monitoring of Remedy for incoming tickets and assigning to appropriate groups

Activities

- Monitor ticketing tool for new tickets / requests
 - Assign the request to appropriate groups
- Mail Box Monitoring:
- Classify the mails
 - Keep the mails in respective folders for future reference
 - Respond to the user providing them with required information
 - If an error notification raise Incident & assign
 - If user generated service request raise the service request, capture details and assign the request

Service Benefits

- This service overlaps with Application monitoring & Batch Job monitoring.
- However if the clients requests are also posted to certain mail box, Mail box monitoring service will structure such requests, classify them and manage the requests through proper process

Batch Scheduling / Execution Services



Definition

- Batch Job scheduling /execution service provides scheduling a series of jobs to run without manual intervention. Adhoc execution of jobs also falls under this service.
- Overall goal of the batch scheduling is to streamline the jobs to automated model and there by achieving a stable operations environment

Activities

- Schedule jobs through automated job schedulers
- Execution of any manual job
- Receive requests for Adhoc execution and initiate steps to complete the same
- Monitor adhoc jobs so as to ensure completion at the right time
- Co-ordinate with third party service provider to facilitate operational changes, adhoc requests & major enhancements involving job changes.
- Initiate application level changes if required for scheduling the required job

Service Benefits

- Job scheduling ensures batch operations are completed on time so that right data is available for critical business processes to run.
- Service facilitates automation and efficient management of operations resources.
- By scheduling jobs and by eliminating manual intervention scope for manual errors can also be minimized

Batch Monitoring Services



Definition

- Batch monitoring service provides real time monitoring of all jobs and service constantly checks status of the jobs.
- Overall goal of the batch monitoring is to provide a predictable operational service model and to ensure timely completion of batches successfully as per agreed levels.

Activities

- Verify job outputs & log files
- Identify various events, errors and exceptions
- Check whether they are genuine alerts (true exceptions)
- Acknowledge events
- Capture all necessary details to log the incident
- Assign incident to the relevant support groups to progress through resolution
- Initiate resolution with appropriate approvals
- In case of critical job failures, notify the customer and initiate the resolution process

Service Benefits

- Timely completion of critical jobs and thereby ensuring availability of data / key business processes of the client.
- The ability to detect events, make sense of them and determine the appropriate control action is the key aspect of this service

Standard Service Request Fulfillment



Definition

- The Service offers a way of meeting the customers needs through an agreed target SLA.
- Providing a channel for users to request and receive standard services for which a pre-defined approval, qualification and fulfillment process exists and is clearly documented
- Being fulfilled at the Level 1 Support through provision of documented Standard Operating Procedures and/or knowledge base

Activities

- User to raise a Service request through agreed channels (Service Desk, Remedy, Web Portal etc.)
- Service Desk to classify the requests and assign them to the appropriate resolution queue
- ITIS to acknowledge the requests and check the classification codes
- If the requestor is eligible for the requested service, initiate the fulfillment process
- If the requestor is not eligible for provision of a service, advice the requestor to get necessary privileges
- Search the Knowledgebase to fulfill the request
- Fulfill the request and track the ticket till resolution and closure
- Transfer the request to ASG if the fulfillment process is not available in the knowledgebase

Service Benefits

- The ability to process the request at the first level of support resulting in faster fulfillment
- Continuously improved request handling time as the knowledge base is documented with expected sequence of actions including approvals and the fulfillment process
- Self optimized process model resulting in continual improvement of the processes ensuring faster processing times
- Opportunity to automate standard process flows by using “fit for purpose” tools

Known Error Resolution Services



Definition

- Known error resolution concentrates on restoring unexpectedly degraded or disrupted services to users as quickly as possible, in order to minimize business impact, thus ensuring that the best possible levels of service quality and availability are maintained.
- This service concentrates on known incidents only, which will be available in error code book or process hand book or Known Error Database (KEDB), where all the errors and their respective workarounds are available

Activities

- The Customer to raise incident through Global Service Desk(GSD)
- Monitor Remedy for Incident and Respond to incidents
- If Service request is raised as Incident, notify GSD for rectification.
- Search KEDB to find appropriate workaround and provide resolution.
- Transfer ticket to ASG if resolution is not available in KEDB
- Track the ticket to its closure
- Request for a permanent solution for frequently occurring tickets
- Link incidents to KEDB

Service Benefits

- The ability to resolve known incidents which results in lower downtime to the business, which in turn means higher availability of the service.
- Continuously improved turnaround time as the knowledge base is documented with expected actions.
- The ability to identify potential improvements to services. Reoccurrence of known incidents are tracked and when it crosses set threshold improvement service is evoked

Major Incident & Mediator Support Services



Definition

- This Service focuses on Establishing a protocol for communication and coordination between vendors during major outages and changes spanning across the Service Portfolio (like a technology refresh involving Infrastructure and Application service providers)
- Service Management Integration between Service providers, OEM vendors and Customer IT

Service Benefits

- Faster restoration of services leading to reduced business downtime
- Accountability/Ownership of Incidents/ Applications during outages
- End to end management for the customer
- Collaboration through establishing Technology and Business conference bridges during outages
- Standard protocol for communication and collaboration between vendors
- Transparent management information (reports) enabling the customer to gauge vendor efficiencies

Application License Management



Definition

- Identify and maintain a record of all installed applications
- Map the installed applications to the existing software licenses
- Monitor, meter and optimize utilization of the application licenses
- Perform compliance status auditing and management reporting
- Perform corrective actions in case of any non-compliance

Service Benefits

- Improved IT governance through software compliance standards and procedures
- Reduced IT spend through effective license utilization
- Provide an inventory of application licenses mapping to actual installed applications
- Reduced risk of legal obligations through meeting software compliance requirements



Questions





Check Your Understanding

1. What are the different types of Service Desk available?
[Ans.] Local Service Desk, Centralized Service desk and Virtual Service Desk
2. Which service does real time monitoring of all the jobs and their status?
[Ans.] Batch Monitoring Service
3. Which service is responsible for Establishing a protocol for communication and coordination between vendors during major outages ?
[Ans.] Major Incident and Mediator Support Services
4. What are the main functions of a L0/L1 support engineer?
[Ans.] Receive all calls and e-mails on incidents and service requests, Incident recording, Incident Classification, Incident Prioritization, Incident Escalation, Search for Work Around, Update the customer and IT group on progress, Incident Closure upon User Confirmation, Standard Request Fulfilment , Perform communication activities for the other ITIL processes (e.g. Release notifications, change schedules, SLM-reports)
5. Which are services, from the Managed Services catalog, that are shared between L0 and L1 support groups?
[Ans.] Known Error Resolution and Standard Service Request t Fulfillment
6. What is the difference between L0 and L1 support?
[Ans.] L0 support personnel is always business user -facing, whereas L1 support is system facing like mail/ticketing tool monitoring/batch monitoring or IT department
7. When providing a Standard Service Request, eligibility of the requestor needs to be checked. State TRUE or FALSE.
[Ans.] TRUE
8. The Known Error Database (KEDB) Known Error Database (KEDB), where all the errors and their respective workarounds are available. State TRUE or FALSE.
[Ans.] TRUE



Summary

- At the end of this session you got a fair idea on
 - L0, L1 Support
 - Service Desk Support Model
 - Types of Service Desk
 - Relationship between various Support Levels
 - Types of Support and Skills required for L0/L1 Support
 - Main functions of L0/L1 support
 - Services Rendered by L0/L1 Services
 - Reference
http://itil.osiatis.es/ITIL_course/it_service_management/overview_problem_management/overview_problem.php



AVM Service Line

You have successfully completed –
L0/L1 Support and Service Based Delivery



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

L2 Support and Service Based Delivery



LEVEL – LEARNER



Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



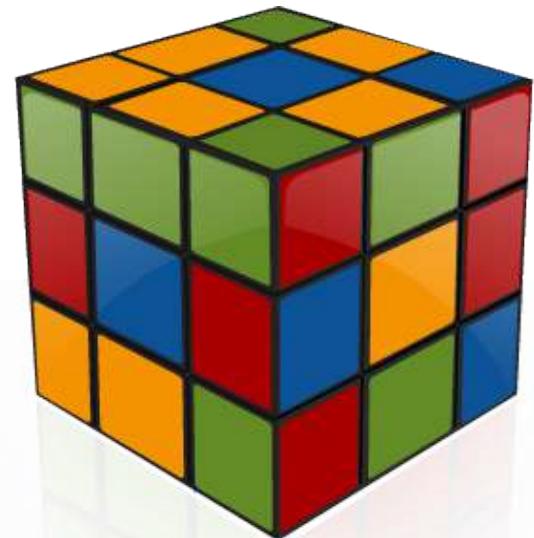
This session is to help Entry level trainees to understand what is L2 support, and the services rendered by L2 support



Objective

After completing this chapter, you will be able to explain:

- What is L2 Support?
- Services Rendered by L2 Support





Overview

L2 Support team is a 2nd level of functional escalation for L0 & L1 teams. L2 support team is a expertize in analytical, technology, domain & client application having experienced and more knowledge on a particular product or service.

L2 support team provides input to L0/L1 support team for solving basic technical problems. L2 support team investigate issues and confirm the validity of the problem and seek known solutions with temporary work-around or a permanent solution.

L2 support team does functional escalation to L3 team for any minor bug fixes / minor functional changes / minor functional enhancements / for any deeper analysis



Overview

- L0 / L1 support does functional escalations to L2 support team , however L2 Support team resolve calls directly those are allocated to L2 support team
- L2 support team requires a higher technical skill set, domain & functional knowledge for problem solving, hence this team individuals are expertize in above specified areas.
- L2 support team play a important role in continual service improvement by doing call elimination / incident elimination by handling small bugs / problems / changes and by providing input to the L0/L1 support team as this team has higher knowledge on domain, technical and functional
- L2 Support does functional escalations to L3 support after troubleshooting the calls / incidents. The reasons for functional escalations are :
 - If high effort is required to analyze the issue /incident OR if deeper analysis is required resolve the issue /incident
 - In case of any bug fix is required for the issue /incident reported
 - If any minor functional enhancement to be done for the issue /incident reported
 - If any minor changes required to resolve the issue /incident reported
- Major enhancements / changes are handed led by L4 support



Overview

- Main services are ideally supported by L2 support, With in this services IM & PM services are handled by reactive or by proactive analysis.

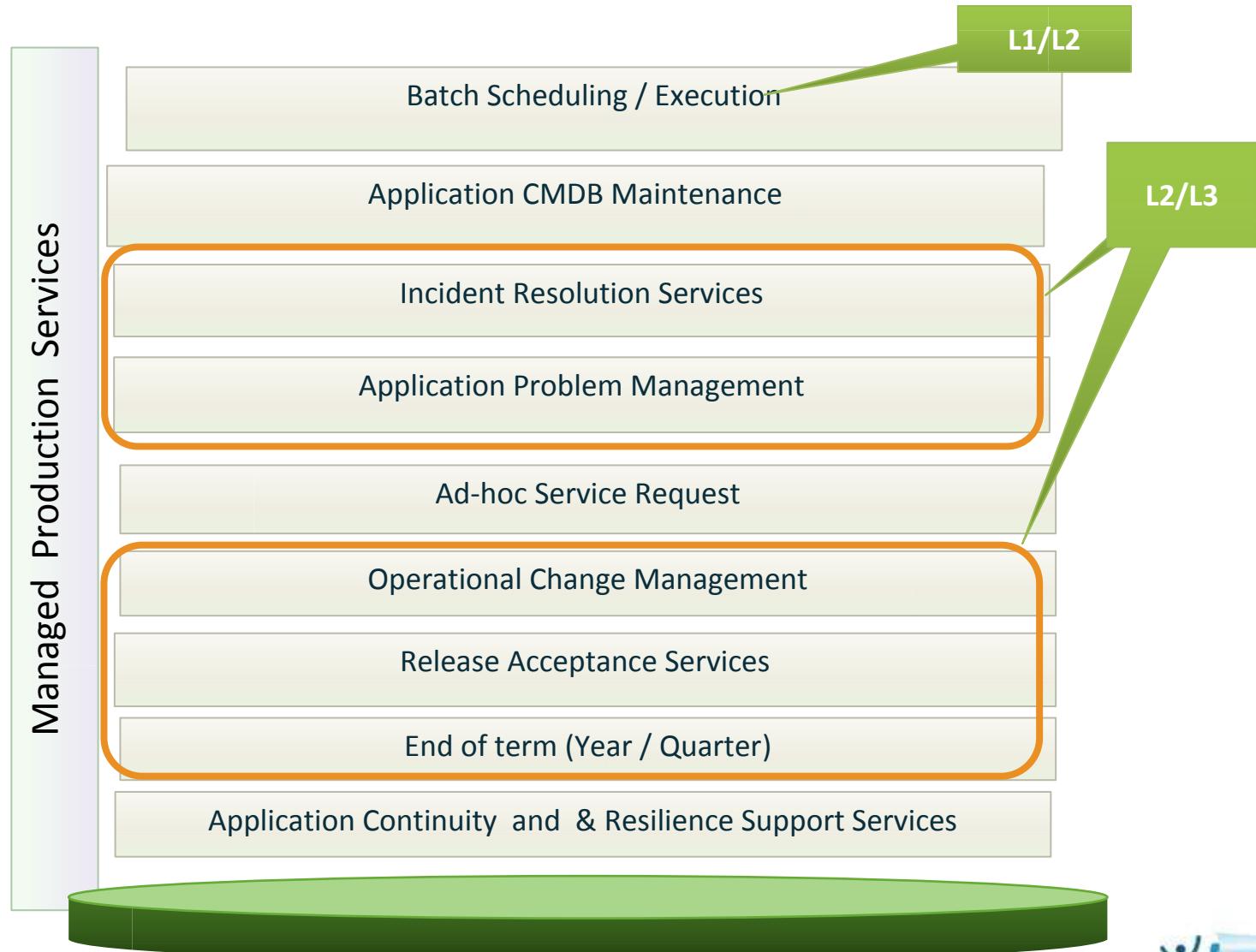
➤ **Reactive:** Analyzing incidents that have occurred in order to discover their causes and propose solutions to them is reactive problem management

Example - Bug fixing

➤ **Proactive:** Proactive analysis prevents the recurrence of incidents or prevent incidents even before they happen and lead to automation to reduce manual interventions, errors and efforts.

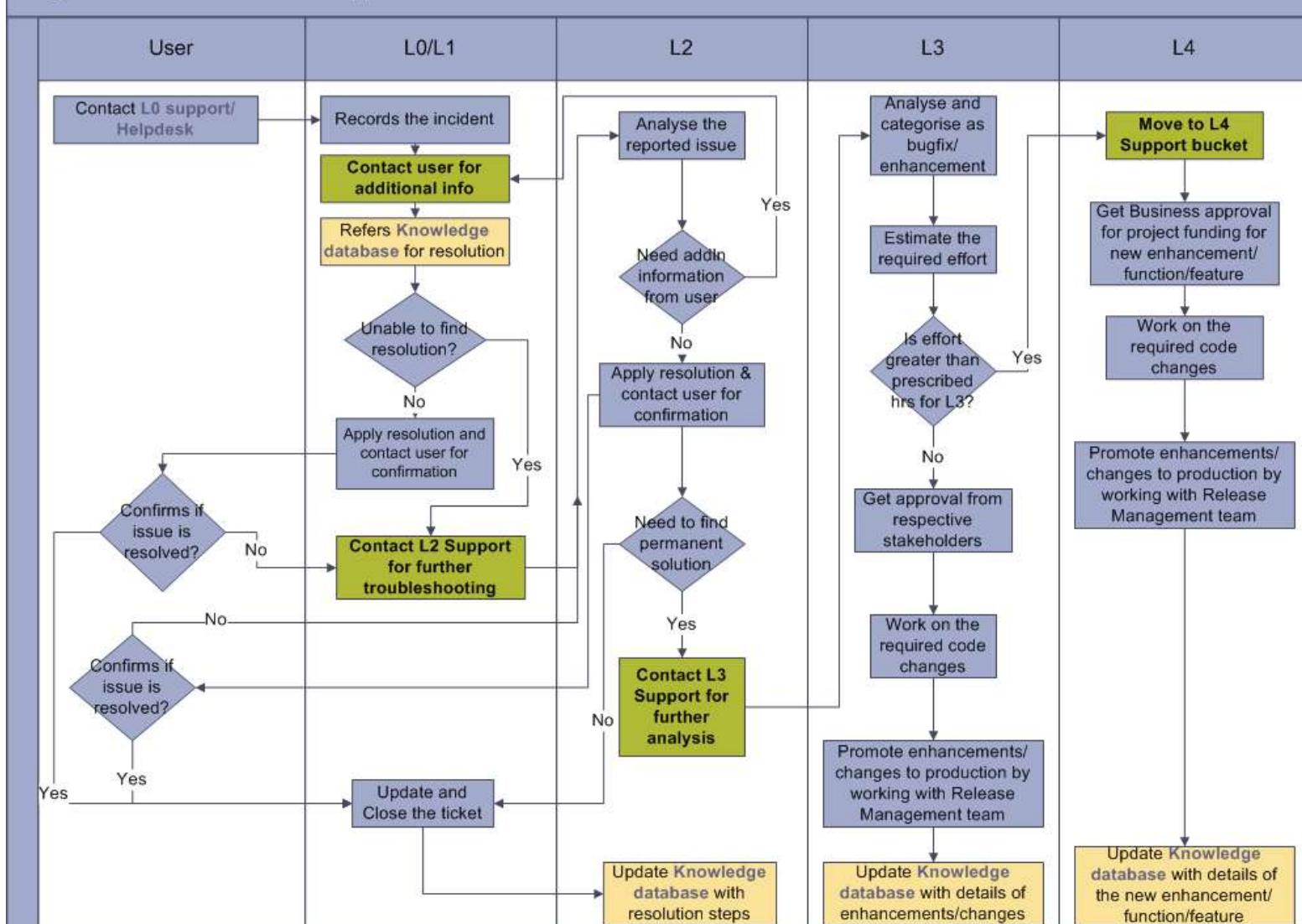
Proactive examples - Analyzing components, IT infrastructure capacity , availability & demand, so that incidents are reduced

Services Rendered by L2 Support



Integration between Support Levels

Integration between Various Support Levels



Batch Scheduling / Execution Services



Definition

- Batch Job scheduling /execution service provides scheduling a series of jobs to run without manual intervention. Adhoc execution of jobs also falls under this service.
- Overall goal of the batch scheduling is to streamline the jobs to automated model and there by achieving a stable operations environment

Activities

- Schedule jobs through automated job schedulers
- Execution of any manual job
- Receive requests for Adhoc execution and initiate steps to complete the same
- Monitor adhoc jobs so as to ensure completion at the right time
- Co-ordinate with third party service provider to facilitate operational changes, adhoc requests & major enhancements involving job changes.
- Initiate application level changes if required for scheduling the required job

Service Benefits

- Job scheduling ensures batch operations are completed on time so that right data is available for critical business processes to run.
- Service facilitates automation and efficient management of operations resources.
- By scheduling jobs and by eliminating manual intervention scope for manual errors can also be minimized

Application CMDB Maintenance



Definition

- Manages the ongoing maintenance of the Application CMDB
- Service focus is to capture all applications, its critical attributes, its interfaces and relations to other applications
- Concentrates on capturing applications links to all external factors including infrastructure components

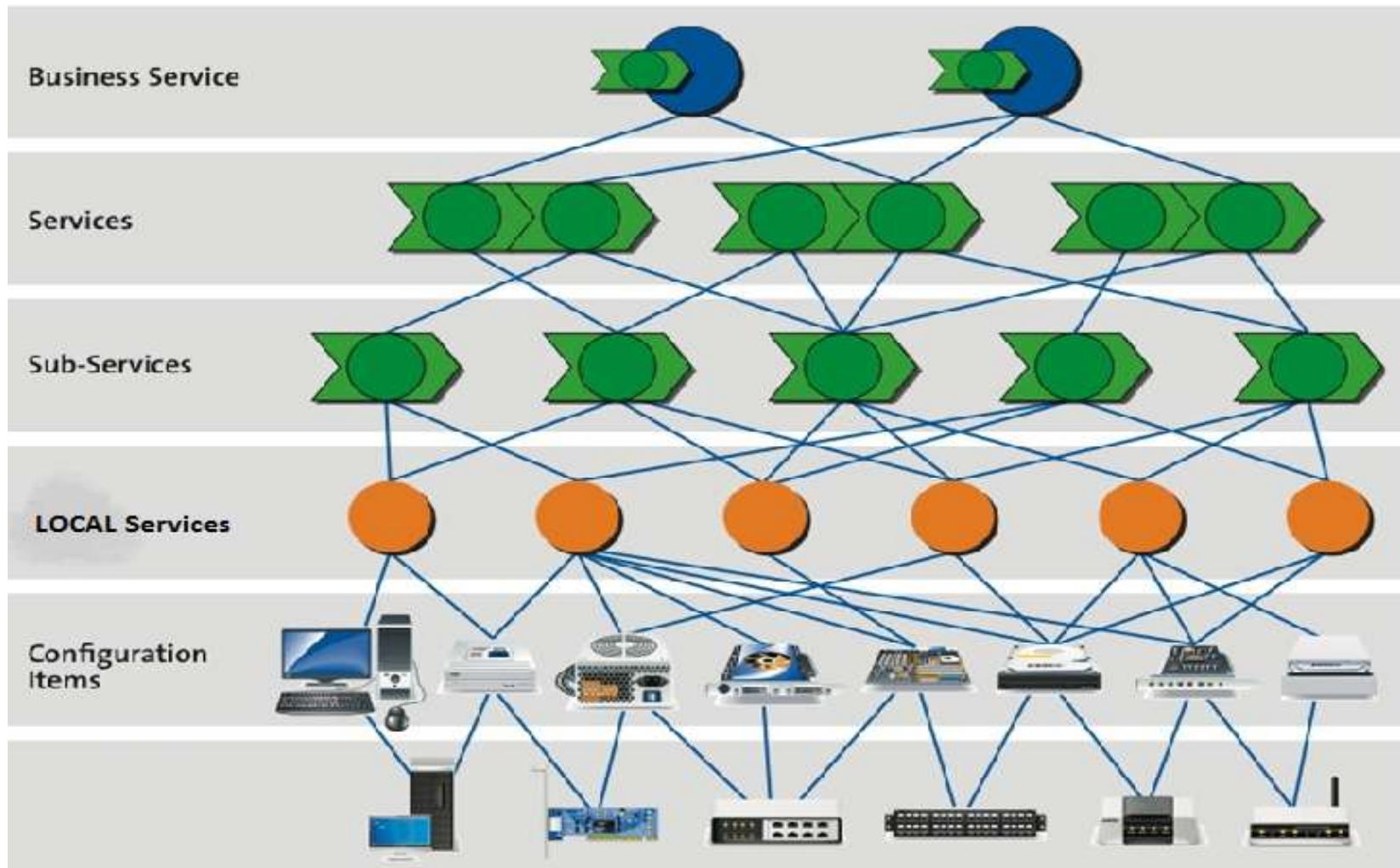
Activities

- To capture all applications, its critical attributes, its interfaces and relations to other applications.
- To capture applications links to all external factors including infrastructure components.
- To relate changes, incidents, problems and known error records to the affected CIs for further analytics and correlation

Service Benefits

- Enhanced Business Value
- Catalyze identification of optimization and consolidation opportunities
- Improved Management understanding of application and related infrastructure architecture

Importance of CMDB



Importance of CMDB

Inventory

One source to rely upon

Single source of truth about applications and infrastructure for the Operations team to refer

Dependency Information

Faster RCA and Impact analysis

Understand upstream and downstream impact of failures and changes

People Dependencies

Proactive & 'First time right' communication

Accurate business communication and support group identification

Service Mgmt. Data analytics

Service Excellence

Metrics and Data analytics from Business process down to wire

Incident Resolution (Unknown) Services



Definition

- This service concentrates on incidents which will not be available in error code book , KEDB/KB, or process hand book, where all the errors and their respective workarounds are available.
- Service focuses on restoring unexpectedly degraded or disrupted services to users as quickly as possible, in order to minimize business impact

Activities

- Receive & Prioritize Incidents based on SLA
- Investigate & Diagnose Incidents
- Identify solution / workaround
- If resolution requires script execution by DBA
 - Obtain approval from Application Manager or equivalent authority
 - Pass the script to DBA
 - Verify the incident after execution of the script
- In case solution require Code Fix
 - Submit a Change Request and obtain necessary approvals from the Change Control board
 - Resolve the incident and restore the service
- Update KEDB with Solution provided & Link incidents to KEDB

Service Benefits

- The ability to resolve incidents which results in lower downtime to the business, which in turn means higher availability of the application. This means that the business is able to exploit the functionality of the service as designed.
- Continuously improved knowledge management practices, by institutionalizing known errors and workarounds in KEDB.
- Robust stabilization / hardening process by monitoring thresholds of incident for invoking Application Hardening Service.
- Enables next level of Shift Left Maturity through proactive analysis for areas of improvement through automation, knowledge enrichment, training and end user enablement

Application Problem Management Services –L2/L3



Definition

- Focus of the service is to eliminate recurring incidents and to minimize the impact of incidents that cannot be prevented
- Service will also maintain information about problems and the appropriate workarounds and resolutions, so that the organization is able to reduce the number and impact of incidents over time

Activities

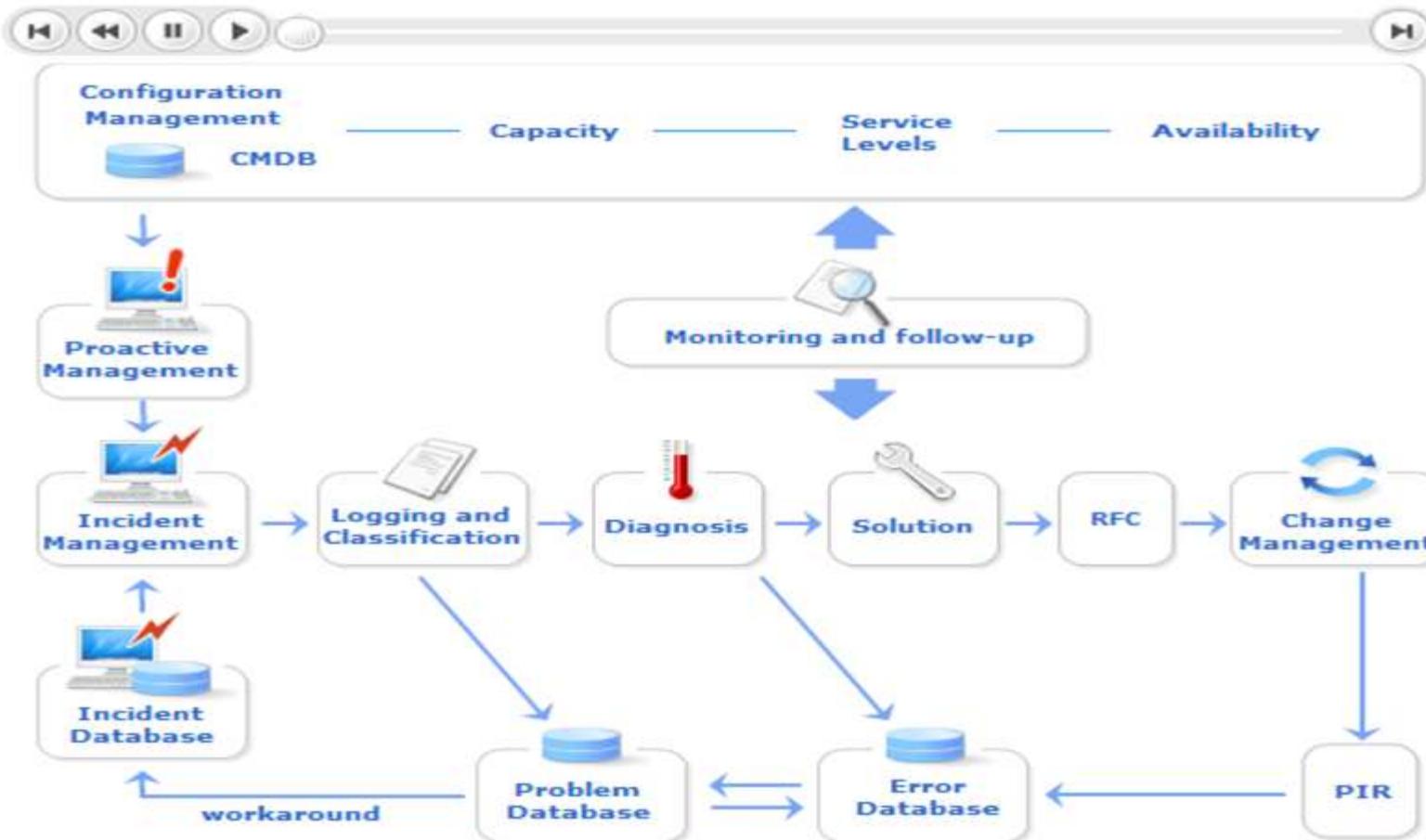
- Problem Identification through defined triggers
- Problem recording and linking it with related incidents
- Prioritization of problems
- Problem Investigation & Root Cause Analysis
- Identify workarounds if any & Update Known error database
- Incase permanent solution is identified, raise relevant change management process for permanent resolution
- Deploy permanent solution and monitor occurrence of incidents for further period
- Incase no reoccurrence close the problem

Service Benefits

- Higher productivity of business and IT
- Reduced effort on workarounds and temporary fixes
- Reduction of effort in fire-fighting or resolving repeated incidents

Application Problem Management Services L2/L3

The interactions of Problem Management service with other services



Ad-hoc Service Request Fulfillment



Definition

- Ad-hoc Service offers a way of meeting the customer's needs through an agreed target SLA
- It's a channel for users to request and receive ad-hoc services for which a pre-defined qualification , fulfillment process and reference knowledge base does not exist.
- Ad-hoc request will get added to the standard set of services through creating standard guidelines for fulfilling the same service in future

Activities

- User to raise a Service request through agreed channels (Service Desk, Remedy, Web Portal etc.)
- Service Desk to classify the requests and assign them to the appropriate resolution queue
- IT IS team to acknowledge the requests and check the classification codes
- Search the Knowledgebase to fulfill the request. If there is no documented fulfillment process, refer the ticket to the Level 2 support within the portfolio along with the initial findings
- Level 2 Support to check for necessary entitlements for the requestor and then agree upon the fulfillment process and the ETR (Expected Time to resolve) with the Customer technology teams team and the requestor
- Fulfill the request and track the ticket till resolution and closure
- Document Standard Operating Procedures for the fulfillment process and add them to the Knowledge Base so that any future requests of same type can be handled by the first line support

Service Benefits

- Ability to fulfill the service even though a documented procedure does not exist for the same
- Ability to identify new services being requested through analyzing trends in Service requests and add them to the master set of services (Service Catalog) with a documented knowledge base.
- Subsequent decrease in request fulfillment time (turnaround time) as the knowledge base is documented with expected sequence of actions including approvals and the fulfillment process
- Opportunity to automate process flows by using "fit for purpose" tools

Operational Change Management Services L2/L3



Definition

- Operational change management service facilitates coordinating and scheduling operational changes including business impact analysis (BIA) of infrastructure change requests in order to reduce downtime and risk.
- Service addresses production defects fixes and very high priority low effort enhancements mandated by the business

Activities

- Focus of the Service is to reduce downtime and change related risk.
- The changes are recorded, evaluated, authorized, scheduled, planned, tested, implemented, documented and reviewed in a consistent, controlled manner
- Respond to customer's changing business requirements thereby maximizing value while reducing incidents, disruption and re-work

Service Benefits

- "Speed to Market" by implementing a robust change handling process
- Better control on the production environment through appropriate change and release acceptance processes.
- Business impact analysis of infrastructure changes
- Process driven changes leading to lesser implementation timelines
- Ability to minimize unplanned and emergency changes
- Agile production environment that is capable of absorbing complex changes in lesser lead times
- Adherence to compliance requirements

Operational Change Management Services L2/L3



The main activities involved in **Change Management** are :

- Recording, evaluating and accepting or rejecting the **RFCs** (request for change) received
- Organize meetings of the **CAB** (change advisory board), except in the case of minor changes, for approval of **RFCs** and the drawing up of an **FSC** (future schedule of change)
- Coordinating the development and implementation of the change.
- Evaluating the results of the change and proceeding to close the change if successful
- Monitoring and directing the change process

Release Acceptance Services L2 / L3



Definition

- Focuses on controlling and streamlining releases into production
- To establish effective use of the releases to deliver value and be able to sustain future operations
- The goal of the service is to take a holistic view of a change/bugfix/enhancement and ensure that all aspects of a release, both technical and nontechnical, are considered together.

Activities

- Ensures that each release package consists of a set of related assets and service components that are compatible with each other
- Ensures that integrity of a release package and its constituent components is maintained throughout the transition activities and recorded accurately
- Ensures that all release and deployment packages can be tracked, installed, tested, verified, and/or uninstalled or backed out if appropriate
- Ensures that release is in adherence with the pre-production acceptance list.
- Records and manages deviations, risks, issues related to the new or changed service and take necessary corrective action

Service Benefits

- Deliver changes, faster and at optimum cost and minimized risk
- Enable standardization of release management process across all LOBs/applications.
- Bring in better control in terms of regulatory and compliance requirements in the overall change management process.
- Standard process for version control and configuration management
- Assure that customers and users can use the new or changed service in a way that supports the business goals
- Improve consistency in the deployment process across service towers
- Ensure the new or changed service does not degrade serviceability of existing services.
- Ensure that the operations environment and the team supporting the same are ready to absorb the release

End of Term Services L2 /L3



Definition

- Focuses on all scheduled application support activities during End of Month, End of Quarter and End of year.
- This service ensures all corresponding critical jobs as a part of the 'end of term' processes are completed on time during the processing cycle (month end/quarter/yearend)
- This Service will typically be performed at Level 2 or Level 3 support depending on the complexity of the end of term activities.

Activities

- Planning and performing a structured end of term support inline with customer's business and IT stakeholder requirements
- Identifying the need of *Rehearsal testing* before term end and ensure business participation for same
- Ensuring all activities are well documented and changes in parameters (for example: rate changes, tax changes, interest changes, pricing changes etc.) if any are taken care of

Service Benefits

- Ensures seamless operations with no disruption to business during end of terms
- Reduces key people dependence during 'end of term' period
- Overcome demand/peak times in operations during the end of term
- Provides an opportunity to predict and tune job completion times
- Performs data reconciliation and quality assurance during the end of term processing cycle
- Enables extensive business reporting during end of term periods

Application Continuity & Resilience Support Services L2/L3



Definition

- Main objective of this service is to strengthen the ability to rapidly adapt and respond to business disruptions thereby maintaining continuous business operations.
- This service assists clients in the analysis, design and implementation of business continuity solutions, by focusing on applications and critical business processes they support.
- Continuity Strategy enables customers to identify vital business applications and design business continuity strategy accordingly

Activities

- Facilitate /conduct Business Impact Analysis (BIA) of applications and prioritization based on criticality
- Help in identifying internal/external threats that can harm an application's resiliency
- Facilitate / conduct applications recoverability assessment
- Review the developed business contingency plan from applications perspective.
- Develop and maintain applications recovery plan as per business continuity strategy and plan.
- Setup and maintain recovery sites with specific recovery scripts for identified applications
- Participate in mock drills and revising the plan on a regular basis

Service Benefits

- Enables resiliency into the application design thus helping business achieve high availability of systems
- Analyzes the potential impact of identified risks to the crucial business processes and applications
- Understands the risk factors for various business processes, and how those factors can escalate over time
- Helps in planning and designing a comprehensive business resiliency strategy that aligns common goals and requirements for business continuity and IT service recovery
- Reduces downtime of applications and underlying infrastructure



Services Rendered by L2 Support with Alias Name

Cognizant

Service Name	Performed by	Alias Name	Service Catalog
Batch Scheduling / Execution	L2	<ul style="list-style-type: none">• Job Scheduling• Batch Job Processing	Managed Production Services
Application CMDB Maintenance	L2	<ul style="list-style-type: none">• Configuration Management• CMDB Management	Managed Production Services
Incident Resolution (Unknown) Services	L2	<ul style="list-style-type: none">• Incident Management• Production Control / Support	Managed Production Services
Application Problem Management Services	L2	<ul style="list-style-type: none">• Problem Management• Error elimination process• Root Cause Analysis process	Managed Production Services
Ad-hoc Service Request Fulfillment Services	L2	<ul style="list-style-type: none">• Level 2 Service Request Handling• Non-standard Request Management	Managed Production Services
Operational Change Management Services	L2	<ul style="list-style-type: none">• Change Management• Change control	Managed Production Services
Release Acceptance Services	L2	<ul style="list-style-type: none">• Release Management• Release control• Production Gating	Managed Production Services
End of term (Year / Quarter) Services	L2	<ul style="list-style-type: none">• Seasonal Services	Managed Production Services
Application Continuity & Resilience Support Services	L2	<ul style="list-style-type: none">• Service Continuity Management• Business Continuity Planning• High Availability Planning	Managed Production Services



Practical Case - 1

- An user raises an incident saying that she wants to see the view of her data with the scroll bar in her application. Currently, she has to move to next pane to get the data.
- L0/L1 Support technician logs an incident for this issue and passes it on to L2 Support technician, since this needs more analysis on code perspective.
- L2 Support Technician debugs the code by using the breakpoints (discussed very briefly in Tools session for DotNet).
- He found that some changes were needed in the code.
- He makes the changes in Preproduction environment of the application and updates the user to carry out testing.
- Once the user confirms, L2 Support Technician will go ahead and change the code in Production environment of the application and check with the user for final confirmation.
- If everything works fine, L2 Support Technician will educate the L0 Support Technician for the closure of incident.



Practical Case - 2

- An user raises a incident saying that she needs to access bulk uploading of transactions from GUI to DB by herself.
- L0/L1 Support technician logs an incident for this issue and passes on to L2 Support technician, since this requires more analysis on code perspective.
- L2 Support Technician debugs the code by using the breakpoints (discussed very briefly in Tools session for DotNet).
- He found that some changes were needed in the code.
- He makes the changes in Preproduction environment of the application and updates the user to carry out testing.
- Once the user confirms, L2 Support Technician will go ahead and change the code in Production environment of the application and checks with the user for final confirmation.
- If everything works fine, L2 Support Technician will educate the L0 Support Technician for the closure of incident.

Questions





Check Your Understanding

1. Define Level2 Support.

L2 is a more in-depth technical support level
and more knowledgeable personnel on a particular product or service.

2. List any three MPS services rendered by L2 support?

Incident Resolution (Unknown) , Ad-hoc Request Fulfillment and Application Problem Management

3. Main activities of L2 Support team is ?

To investigate the underlying causes of any real or potential anomalies in the IT service and define possible solutions. Put forward requests for changes (RFC) needed to re-establish quality of service.

4. The main activities involved in Problem Management are:

Problem Control & Error control

Reference

http://itil.osiatis.es/ITIL_course/it_service_management/problem_management/overview_problem_management/overview_problem_management.php

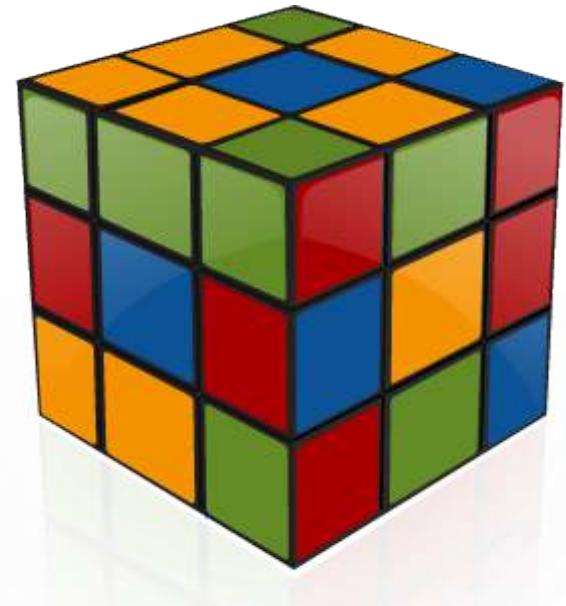
5. What is the difference between L1 & L2 Support?

L1's sole aim is to restore quality of service as quickly as possible. It does not seek to determine the origins or causes of a degradation to service quality. But L2 determine the causes and look for possible solutions for incident which becomes recurrent or has a powerful impact on the IT structure



Summary

- Here's a recap of this session:
 - L2 is a more in-depth technical support, containing experienced and more knowledgeable personnel on a particular product or service.
 - Technicians in this domain of knowledge are responsible for providing input to L0/L1 support team to solve basic technical problems and for investigating elevated issues by confirming the validity of the problem and seeking for known solutions related to these more complex issues.
 - The main activities of L2 Support are:
 - To investigate the underlying causes of any real or potential anomalies in the IT service.
 - To define possible solutions to anomalies.
 - To put forward requests for changes (RFC) needed to re-establish quality of service so that L3 team would work on minor bug fix, PM, CM & Functional enhancements.
 - L2 support team does carry out post-implementation reviews (PIR) to ensure that the changes have brought about the desired results without causing side effects.





Summary

- Here's a recap of this session:

Services related to operational are known as Operational Services , which is responsible for identifying production issues, managing incidents from inception to resolution. Operation services handled by L2 are

- ❖ Batch Scheduling and Execution Services by L2 support
- ❖ Applications CMDB Maintenance Services by L2 support

Specialized Services those require specialized knowledge or skills to restore the service by fixing the application issue. L2 / L3 team expertise is required to resolve these issues. Services offerings defined part of Specialist Services are

- ❖ Incident Resolution (Unknown) Services L2 /L3
- ❖ Application Problem Management Services L2 /L3
- ❖ Ad-hoc Service Request Fulfillment Services
- ❖ Operational Change Management Services -L2 /L3
- ❖ Release Acceptance Services -L2 /L3
- ❖ Application Continuity & Resilience Support Services
- ❖ End of term (Year / Quarter) Services -L2 /L3

AVM Service Line

You have successfully completed -
L2 Support and Service Based Delivery



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

L3 Support and Service Based Delivery



LEVEL – LEARNER

Icons Used



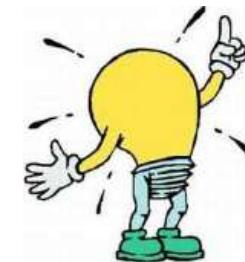
Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



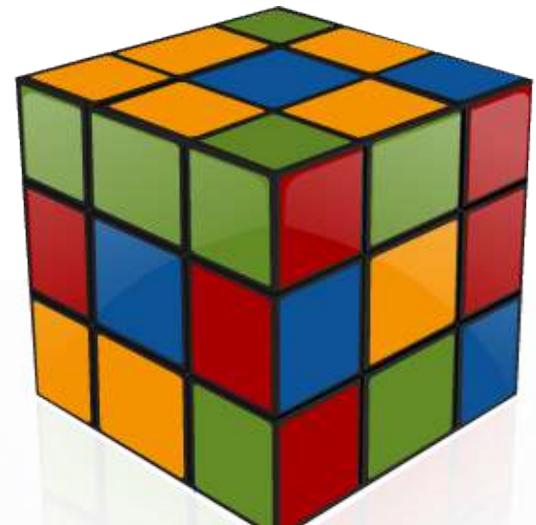
This session is for the Entry level trainees to give an overview about L3 support, and the services rendered by L3 support



Objective

After completing this chapter, you will know about

- ✓ Overview on L3 Support
- ✓ Services Rendered by L3





Overview

L3 Support is the high end incident support, they are responsible for handling Problem management, minor Bug fixes, minor functional changes and minor functional enhancements.

L3 team provide input to L1/L2 team for resolving any issues and coordinate with L1/L2 support team for any problem management , bug fixes, functional changes & functional enhancements



Overview

- L3 Support is ***synonymous with*** level 3 support, back-end support, support line 3, high-end support, and various other headings denoting expert level troubleshooting and analysis methods
- These individuals are experts in domain & client application knowledge, technical & impact analysis and they provide input to **both L1 and L2** support technicians with the analysis and development of solutions to ***new or unknown issues***
- If any issues are not able to resolved by L2 Support team or if any issues requires bug fixes, minor changes or minor functional enhancements, then L2 team does functional escalations to L3 Support team
- L3 support team does continual service improvement by proactive support



Overview

- L3 Support may be Proactive and Reactive

Proactive in code analysis, in other words investigating the underlying causes of any real or potential anomalies in-order to strengthen the applications.

For example :

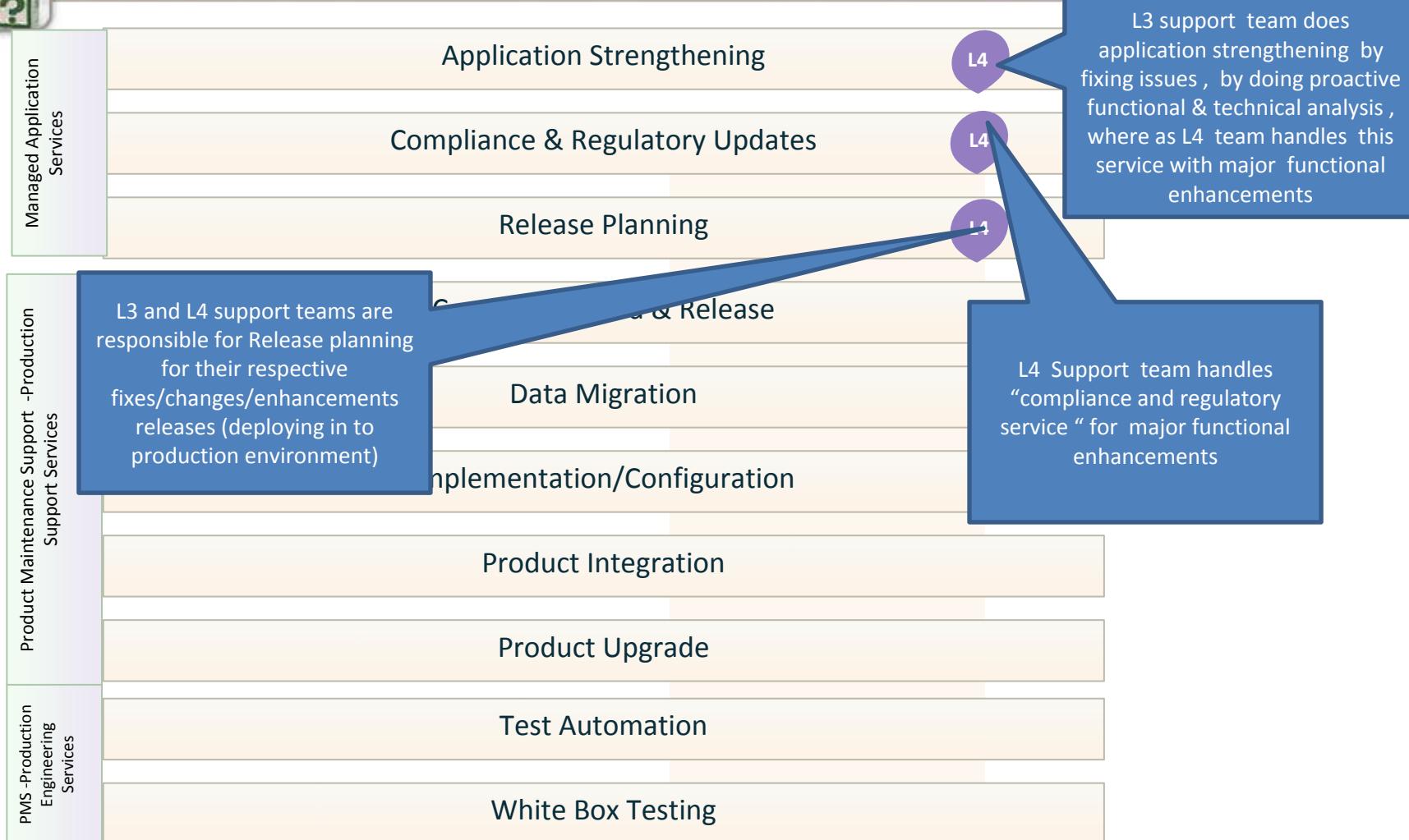
Automation to minimize /nullify the manual effort

Identifying permanent solution for recurring issues to stop the issue occurrence for ever

Proactive support ensures continual service improvement

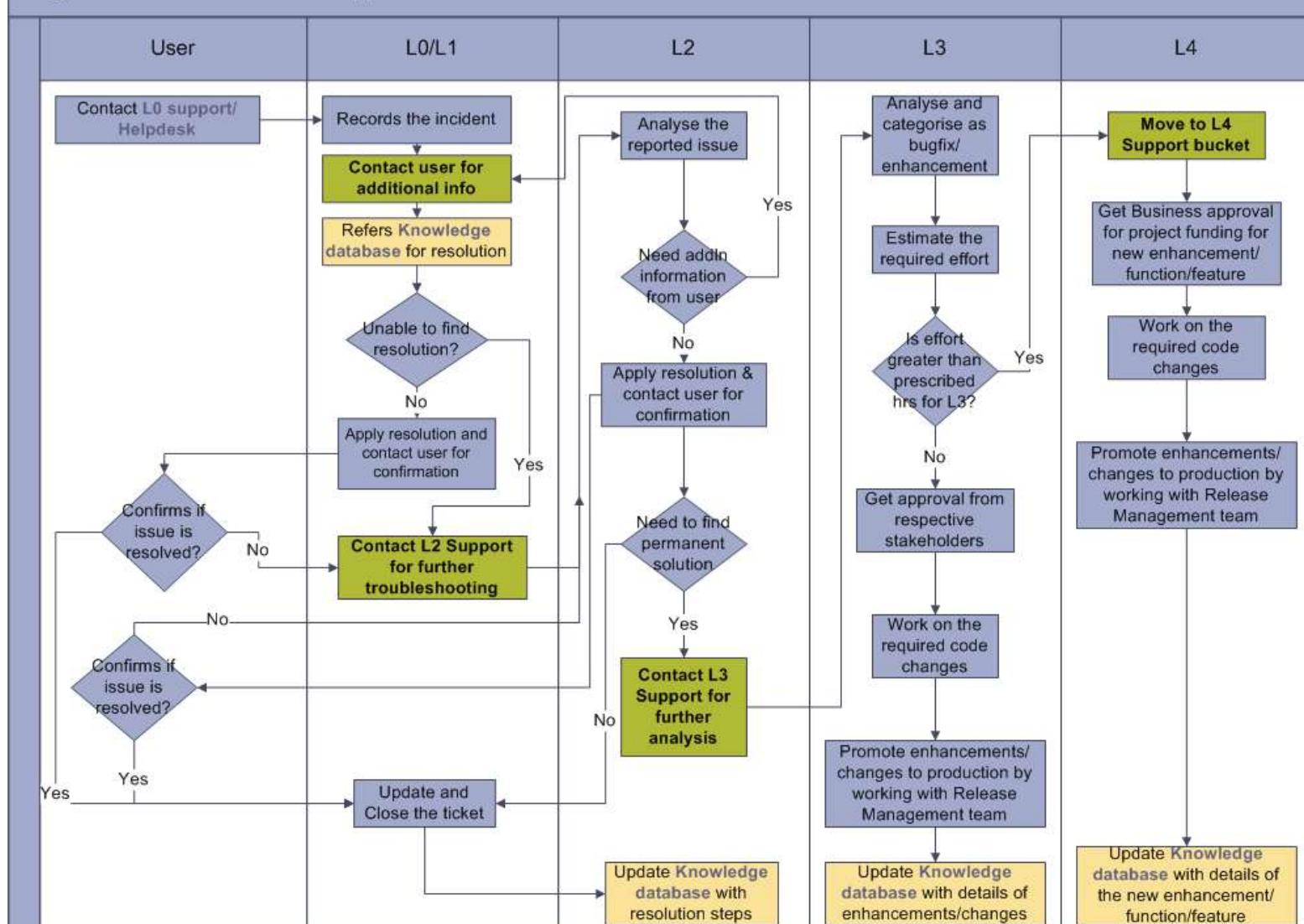
Reactive support is analyzing incidents that have occurred to discover their causes and propose solutions to them. *For example Bug fixes.*

Service Rendered by L3 Support



Integration between Support Levels

Integration between Various Support Levels



Application Strengthening



Definition

- Focus of the service is to develop proactive measures to improve service quality.
- The primary objective of service is to prevent problems before happening to production environment.
- It is also responsible for ensuring that the changes are implemented through the appropriate control procedures, especially Change Management and Release Management.
- Service also analyses recurring standard service requests and facilitates addition of the functionality in application (functional enrichment) to avoid the service request

Activities

- Analyze data such as capacity / performance assessment report, technology /design Assessment report.
- Identify bottle necks in critical application components & interfaces
- Identify issues that will impact production environment, qualify the problems, record , prioritize and determine the most appropriate solution to resolve the problems
- Estimate the effort and submit the same to the change advisory board
- Design / develop the solution, conduct simulation /stress testing to gauge performance against projected improvements
- Proceed with release control board and deployment after business acceptance
- Support go live activities and monitor the production environment during warranty period to measure effectiveness of the solution deployed and Close the problem records, if the solution is effective

Service Benefits

- Higher availability of Applications
- Higher productivity of business and IT
- Longer life time of applications, there by reduced total cost of ownership
- Improved Customer Satisfaction

Compliance & Regulatory Updates



Definition

- Focuses on enabling better compliance with regulatory requirements relevant to location (country/state specific) and the nature of business
- The primary objective of the service will be to handle compliance related requests (e.g. SOX, HIPAA etc.) and execute changes in the applications within the stipulated timelines

Activities

- Manage client requests through its lifecycle with respect to regulatory and compliance
- Plan implementation in conjunction with business owners and application stakeholders
- Ensure necessary controls are in place to facilitate compliance requirements
- Every change is properly approved at various stages by the authorized person/team
- Cover aspects like logical Access, release acceptance, job processing, data recovery and data exchange processes
- Develop a list of required evidences that must be captured during standard and off cycle releases
- Support customer in identifying sensitive data and facilitate masking of the same in non-production regions
- Support any regulatory audits, documentation in line with the changes executed & Track compliance audit findings to closure

Service Benefits

- Eliminates / reduces legal exposure of business systems that support major/critical business processes.
- Enables complete audit trail of system changes for facilitating audit to compliance requirements
- Reduces compliance related effort and costs
- Reduces data security risks when delivering applications / enhancements
- Access to dedicated Office of Regulatory Affairs & Compliance (ORAC)

Release Planning



Definition

- Focuses on strategizing, planning and managing a software/product release or a service release, in order to ensure that the overall release meets all the vital technical, resource, budget, and risk constraints
- The service will address planning of all activities that are essential in performing a release like design and build strategy, validation and test models, release acceptance, deployment approach including any communication/training and release review mechanisms
- This service will be an integral part of any incremental software development and maintenance engagement

Activities

- Identify the release unit to be deployed & Check whether the release is in-line with the release policy
- logically consolidate multiple changes into a single release & Perform what if analysis to provide options for the business to select best option that suits their priorities & schedule for the release with mutually agreed upon dates.
- Generate a build and test plan & Prepare a detailed deployment plan
- Document a fall-back plan for the reversal options with duration
- Prepare training plan to enable the users to utilize and extract benefit from the release
- Formulate a Release acceptance plan which will list the approval matrix for the final release approval & Seek approval for the release plan and deployment plan
- Document the release review plan that establishes the conditions that will determine the success of the release

Service Benefits

- Performs faster releases with minimal risk and optimal costs with time to market"|| (on time deliver with value benefit)
- Provides the ability to absorb large volume of changes with no or minimal planned downtime
- Ensures releases are communicated effectively to the target users / community so that the benefits of the release are maximized
- Ensures consistent methods are followed across releases resulting in repeatability and standardization
- Meets audit requirements by maintaining a responsibility and traceability matrix
- Improves synergy through synchronized releases between the production support, development testing and infrastructure team thereby reducing business downtime

Continuous Build & Release



Definition

- This service ensures source code readiness for continuous build / release.
- It mainly focuses on planning, scheduling and executing the respective periodic builds. The services also cover code releases and emergency releases (retrofitting).
- This service is to ensure successful build and release of the product.

Activities

Preparation of the environment - Identify / recommend the software / tools which are needed to be installed as a part of the continuous build and release environment

Build Operation - Manage the versions of the code base, Ensure retrofitting the code & Ensure planning, scheduling and execution of a successful build

Monitoring and reporting - Monitor and report build breaks and environment issues & Report the trend of build breaks and abnormal patterns (if any) to various development teams for subsequent root cause analysis

Release to Environments - Provide bi-weekly updates to SIT and UAT environment, Provide patching of issues if any & release or emergency release from the UAT environment to production

Service Benefits

- Ensures overall compatibility during build phase
- Improves overall code quality
- Enhances overall development productivity by notifying errors
- Reduce overall cycle time

Data Migration



Definition

This service provides analysis of the current data against the data architecture of the selected target product and will focus on -

- Migrating the current data held in one or more system(s) to the target product
- Efficiently deriving data wherever possible by having the right set of rules
- Validating the migrated data
- Baseling reports with the migrated data
- This service is to ensure data availability and data integrity during and post migration

Activities

- Analyze the objectives of the data migration exercise by understanding the existing applications, source of data, database structure and interfaces with other systems. Identify the new product and its database structure.
- Validate current data (as applicable), Report on data quality to business with a proposed action plan.
- Perform data and field mapping between the products after analyzing data gaps and propose default values
- Determine the level of testing required for data migration by developing test plans and reconciliation reports
- Obtain sign-off on the data migration strategy from relevant stakeholders, Develop a detailed communication plan and inform the user community in advance & Validate the data post migration and
- Obtain sign-off on the migrated data

Service Benefits

- Increases system/product productivity and performance while minimizing disruption due to data loss
- Maintains integrity and availability of data to support business decisions
- Eliminates the risk of losing data
- Meets regulatory and compliance requirements (data retention requirements)

Product Implementation & Configuration



Definition

This service covers planning and execution of a product implementation, and ensures that its configuration is in alignment with the business needs. Service focuses on:

- Analyzing the selected product against requirements
- Identifying customization requirements / development of new features
- Determining requirements that can be met with configuration changes
- Setting up the environment and installation of the product with the required configuration
- Customizing modules/functionalities specific to client's needs.
- Integrating the existing business processes, legacy systems and data

Activities

Requirements Gathering -Understand the business requirements, Analyze interfacing systems & Ensure data migration strategy, plan trial runs and ensure acceptance criteria are in place

Design and Build - Perform detailed technical design, Configure and customize the product according to the requirements

Test - Perform testing on migrated / new data and validate every interface & Ensure that the business validates product features and customizations (User acceptance testing)

Roll-out / Deploy - Coordinate production rollout, data migration, data integration, data validation and certification , communicate relevant stakeholders & Provide warranty support

Service Benefits

- Increases the overall utility of the product
- Reduces time to market
- Ensure that the product is customized in line with the business needs
- Enhances user perception of the product

Product Integration



Definition

- Focuses on to achieve complete product integration through progressive assembling of product components in a single stage or in incremental stages, with a defined integration strategy and procedure
- Another critical aspect of this service is to manage the interfaces (internal and external) of the product and product components to ensure compatibility among the interfaces.
- This service is to enable data exchange between product components and ensure compatibility

Activities

Establish an integration strategy - Identify the product components that need to be integrated & Select the best integration strategy in-line with organization architecture and integration standards

Enable product interfacing -Build generic reusable interfaces to be consumed by applications interfacing with the product and Test the quality of integration

Validate the interfaces -Perform interface testing including performance / stress testing to ensure Desired outputs are achieved

Manage the Interfaces- Ensure compatibility of the interfaces throughout the lifecycle of the product and Maintain a documentation repository on the interfaces developed

Service Benefits

- Reduces total cost of ownership through building reusable interface components
- Improves the information flow across various lines of business by linking together disparate products
- Increases business process efficiency by eliminating point to point interfaces wherever possible.
- Maintains an up to date documentation on interfaces
- Reduces time to market by establishing ready-to-use interfaces
- Provides expertise, training, and advisory services to the customer on new Product integration technologies

Product Upgrade



Definition

- Focuses on analyzing the current implementations, identifying client specific customizations, conducting a feasibility study, preparation of a comprehensive upgrade roadmap and executing the same
- Service ensures clear understanding of business objectives behind the respective upgrade and ensures expectations of the business are met with significantly better business capabilities
- This service is to ensure faster time to market through seamlessly planning and executing product upgrades

Activities

Analyze current implementation -Identify the client specific customizations and key constraints / dependencies for the upgrade

Perform feasibility study - Analyze the need of the upgrade, key drivers, business expectations and new functionalities showcased in the target version

Develop upgrade roadmap - Analyze application / product / data architecture and identify key business rules & Conduct unit tests, regression tests, functional tests and stress tests as agreed in the test plan

Execute product upgrade - Obtain business acceptance and plan the deployment process , Execute the product upgrade and evaluate it & Release documentation for the upgraded product

Service Benefits

- Ensures effective utilization of the implemented product
- Ensures the availability of specific customizations in the respective upgraded product
- Enables improved support from product vendors
- Improves time to market, as the upgraded version will have the latest features
- Enhances system agility and flexibility to accommodate the changing business needs

Test Automation



Definition

- Focuses on minimizing manual testing efforts before every release especially for regression testing so as to reduce the associated costs. This would be achieved through employing automation frameworks / tools (which would be used to maintain test cases with clear segregation of test data).
- Service will also utilize test tracking and analysis tool for recording and tracking test results.
- service is to optimize test related costs through minimizing manual execution of test cases during the testing process

Activities

Define Scope - Assess the current testing environment and identify the scope of automation, Factor the complexities of the test cases & Probe on the extent to which business components are reused

Select Test tool - Identify the tools based on the technology on which the application is built

Plan, Design and Develop - Create and document the plan and strategy for test automation & Obtain sign-off on the plan, strategy and design

Test Execution - Explore on the option to execute using the automation tool directly or through the Test Management tool which will in turn invoke the automation tool

Manage and Maintain - Train the developers and testers for using the test case design & Add, review and maintain automation scripts with addition of new functionalities to the product/application under test

Service Benefits

- Reduces time to market
- Reduces dependency on resources
- Reduces total cost of ownership
- Assures delivery with high quality

White Box Testing



Definition

White box testing is a verification technique used by the developers to test internal structures or workings of a product at the level of source code, as opposed to its functionality.

Focuses on analysis of data flow, control flow, information flow, coding practices and exception / error handling within the system / product to ensure correct application behavior

Service ensures extensive testing of the software at the source code level using various testing tools and techniques & service is to optimize source code and thereby improve maintainability

Activities

- Develop the test strategy and chart down the testing activities which would include major tasks, decision points and the challenges involved
- Develop a detailed test plan based on the test strategy developed with Test areas covered, Testing techniques, Test cases , Data selection & Results validation criteria
- Prepare the test environment for test case execution
- Perform white box testing covering Static and dynamic analysis of the code
- Execute test cases and document findings & Prepare and present the report to the key stakeholders
- Provide feedback to the development team to fix the defects at the root through Operations Architecture Review Framework as applicable

Service Benefits

- Increases optimization of the code
- Prevents and eliminates defects within the product / application
- Minimizes incident occurrence once the product is in production
- Reduces ongoing maintenance cost



Services Rendered by L3 Support with Alias Name

Cognizant

Service Name	Performed by	Alias Name	Service Catalog
Application Strengthening	L3 /L4	<ul style="list-style-type: none"> • Proactive Problem Management 	Managed Application Services
Compliance & Regulatory Updates	L3/L4	<ul style="list-style-type: none"> • Compliance Services 	Managed Application Services
Release Planning	L3/L4	<ul style="list-style-type: none"> • Release management • Deployment Management 	Managed Application Services
Continuous Build & Release	L3	<ul style="list-style-type: none"> • Software Configuration Management • Software Release Management • Product build and Release Management 	Product Maintenance Support - Production Support Services
Data Migration	L3	<ul style="list-style-type: none"> • Migration Service 	Product Maintenance Support - Production Support Services
Product Implementation & Configuration	L3	<ul style="list-style-type: none"> • Implementation Services • Configuration Services 	Product Maintenance Support - Production Support Services
Product Integration	L3	<ul style="list-style-type: none"> • Product Consulting 	Product Maintenance Support - Production Support Services
Product Upgrade	L3	<ul style="list-style-type: none"> • Version Upgrade Services • Production Enchantment Services 	Product Maintenance Support - Production Support Services
Test Automation	L3	<ul style="list-style-type: none"> • Automated Testing Services 	Product Maintenance Support - Production Engineering Services
White Box Testing	L3	<ul style="list-style-type: none"> • Clear Box Testing • Glass Box Testing • Structural Testing 	Product Maintenance Support - Production Engineering Services



Practical Case:1

- L0 /L1 Support Team has received a call from the user for the issue below:
 - The warning message that was triggered by his application is sent for a group of person's inbox. He wants it to be sent to his application group mail box
- Steps Taken:
 - L0/L1 Support Technician logs an incident for the issue and informed the same to user and also he passed on the issue to L2 Support Technician.
 - L2 Support Technician identifies that this needs to be carried over as an enhancement and passed over to L3 Support Team.
 - L3 Support Technician picked up the issue and updated the L2 Support Technician to make the user aware of the Change process.
 - User confirms that he will be raising as an RFC and confirms the closure of incident raised for this issue.



Practical Case:1 (Contd)

- Change Process:
 - The change was queued to L3 Support Team with the submission of RFC as this RFC need deep analysis and complex one
 - L3 Support Team analyzed the feasibility and went ahead with the estimation, target dates for the change and submitted to User's Business PoC
 - Business PoC accepted the estimated and intimated L3 Support Team to go ahead with the development
- Implementation:
 - L3 Support Technician analyzed and found that the SMTP details needs the update in Web.config xml file
 - The technician made the changes in the Preproduction environment of the application and requested the user to confirm with the same.
 - The user confirmed to go ahead with the implementation in Production.
 - L3 Support Technician completed the change (by implementing the changes in production) and the user confirmed that everything was working fine.
 - L3 Support Team closed the change as Successful implementation.



Practical Case:2

- User raised a change to L3 Support team with the below requirements:
 - In his application, he is not able to find the history of the drugs in Drug History page, once he selects with a one
 - In Drug history page, a list box with the Drug Name will be viewed and once click on any Drug Name, it will display the history of the selected drug
 - L3 Support Team followed the Change process as mentioned in Practical Case– 1
- Implementation:
 - L3 Support Technician analyzed the code and found that for each there are two details updated in Database:
 - Drug Name – which will be changed in every phase
 - Comparator drug – Id of the drug , which is unique
 - So, for every drug, Comparator drug remains the same and the Drug Name will be varying in every phase.



Practical Case:2 (Contd)

- L3 Support Technician found that the old query which is used to retrieve the Drug history has the filtering with Drug Name.
- L3 Support Technician designed a new view of the Drug History page, with two list boxes displaying the Drug Name and Comparator Name.
- He updated the filtering condition of search query with Comparator Drug.
- In the GUI, if a drug is selected in one list box, its Comparator drug will be displayed in another list box and if the Comparator drug is clicked, it will list the history of the drugs below the list boxes.
- L3 Support Technician closes the change with the steps elaborated in Practical Case – 1 under implementation

Questions





Check Your Understanding

1. What is Level 3 Support?

[Ans] L3 Support is the high end incident support, they are responsible for handling Problem management, minor Bug fixes, minor functional changes and minor functional enhancements .

2. What are the MAS services performed by L3?

[Ans] Application Strengthening, Compliance & Regulatory and Release Planning

3. What is the service related to information security compliance handled by L3 Support ?

[Ans] Compliance & Regulatory service

4. What is the difference between Release planning and Release acceptance ?

[Ans] The goal of the *Release Acceptance Services* is to understand a holistic view of a change /bugfix / enhancement and ensure that all aspects of a release, both technical and nontechnical, are considered together and its act as a production gate for changes to ensure stability of the operations.

Release Planning service will address planning of all activities that are essential in performing a release like design and build strategy, validation and test models, release acceptance , deployment approach including any communication / training and release reviews.

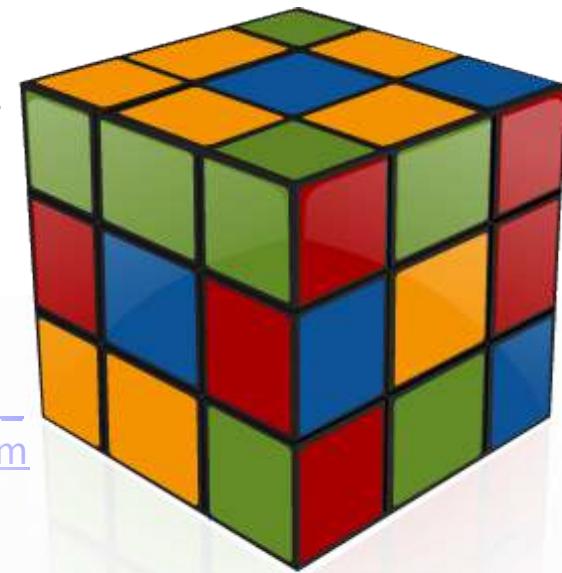
5. List Product Maintenance Support Services performed by L3 support team?

[Ans] Continuous Build & Release, Data Migration, Product Implementation & Configuration, Product Integration, Product Upgrade, Test Automation & White Box Testing



Summary

- L3 Support is the highest level of support technical support model responsible for handling problem management , bug fixes minor changes and minor functional enhancements
- L3 Support provides input to L1 & L2 team, L2 team does functional escalation to L3 team.
- L3 team is an expertise in application and domain knowledge, technical analysis and impact analysis
- The incident comes straightaway as enhancement from user, or may be identified in L1/L2 Support team , that can be carried over as enhancement work.
- Minor enhancement are handled by L3 and
- Major enhancements are handed over to L4 team
- Reference
http://itil.osiatis.es/ITIL_course/it_service_management/problem_management/overview_problem_management/overview_problem_management.php



AVM Service Line

You have successfully completed - L3
Support and Service Based Delivery



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

L4 Support and Service Based Delivery



LEVEL – LEARNER

Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



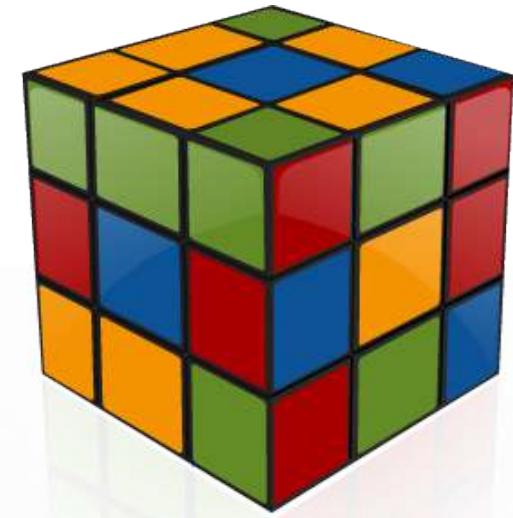
**This session is to help Entry Level Trainees
to understand what is L4 support and the
services rendered by L4 support**

Objectives



After completing this chapter, you will be able to explain:

- What is L4 support?
- Services rendered by L4
 - Enhancement Services
 - Assessment Services
 - Transformation Services
- Integration between Support Levels

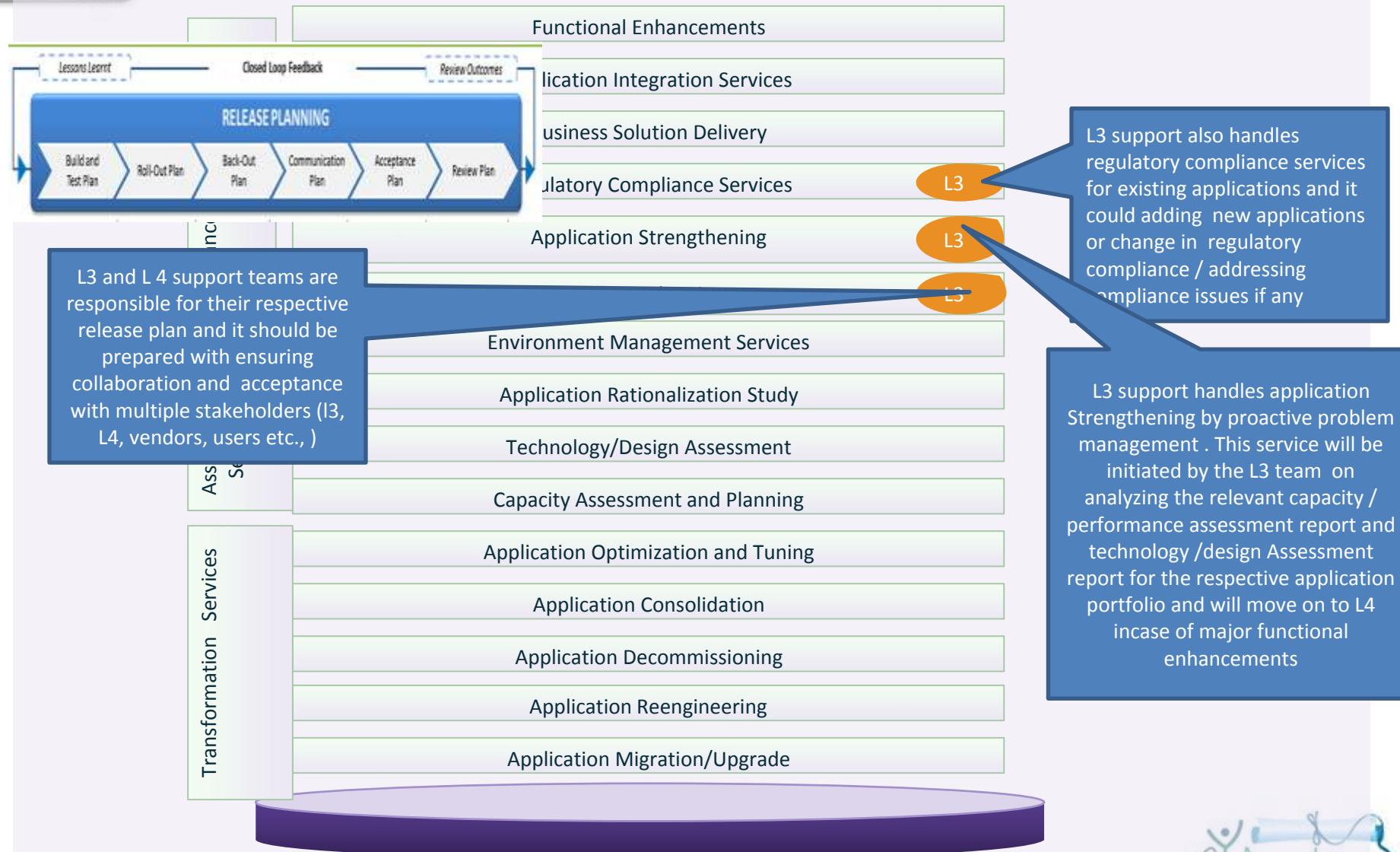




Overview of L4 Support

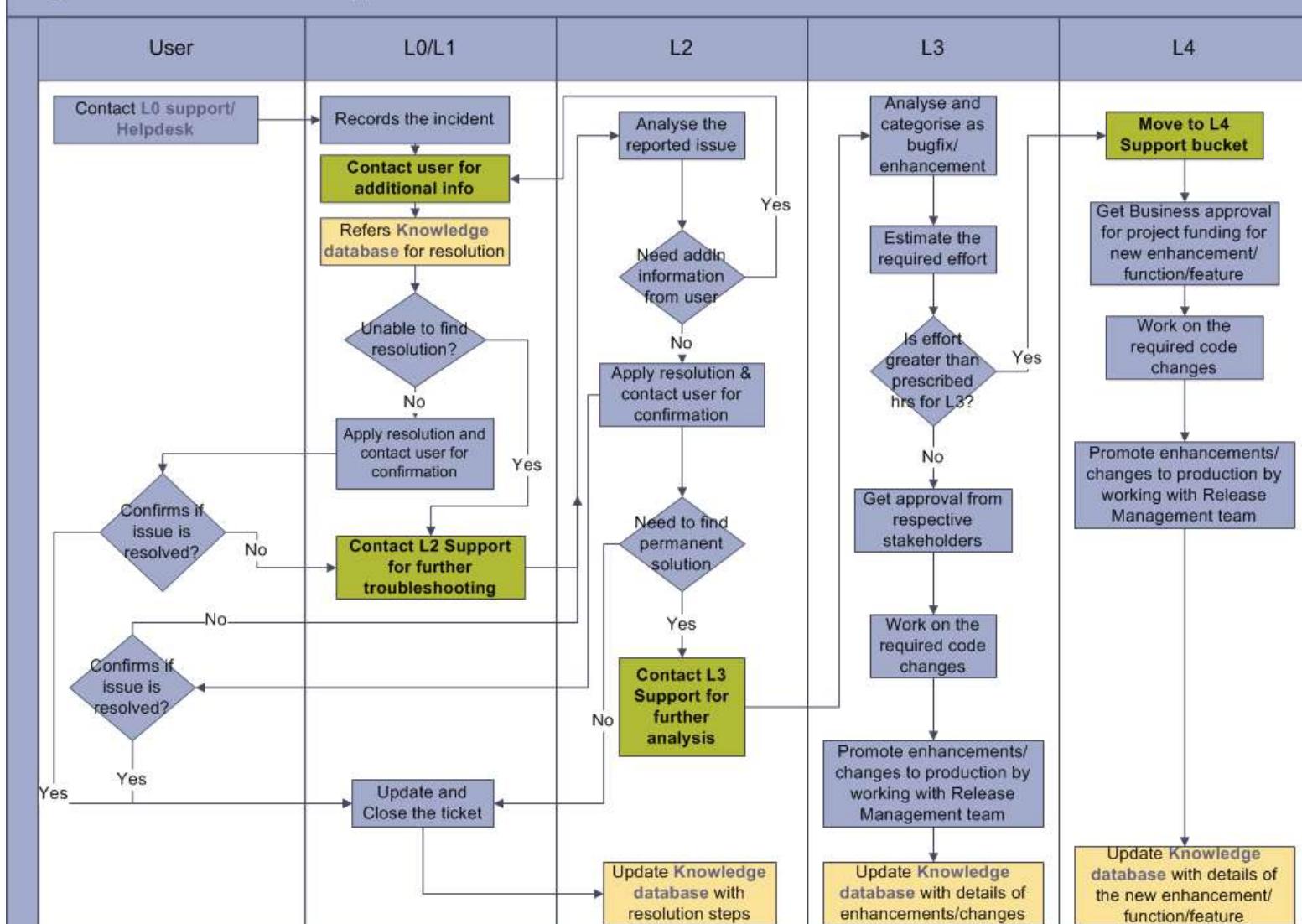
- L4 Support is the highest level of support in a four-tiered technical support model and is responsible for handling the major functional enhancements
- L4 Support is synonymous with level 4 support, support line 4, high-end support and enhancement team
- L4 Support team works on major Functional Enhancements, Application Integration, Release Management, Business Solution Delivery, Application Strengthening, Environment Management, Assessments & Transformations
- If any fixes/changes/enhancements are done by level 2 or 3 technicians, they are to be communicated and knowledge transfer (KT) should happen to L4 team
- L4 support are experts in their fields and are responsible for end to end product release and would coordinate, communicate & provide KT to support technicians on the developments/enhancements, post the production release

Services Rendered by L4 Support



Integration between Support Levels

Integration between Various Support Levels



Functional Enhancement Services



Definition

- Service will focus on planning and executing application enhancements like adding new features and are driven by Customers' business requirements.
- Overall goal of the service is to improve usability & capability of the application by facilitating business needs

Activities

- Analyze the application in terms of technology, underlying infrastructure, business functions and operational efficiency
- Prioritize the required changes in alignment with business needs
- Follows SDLC phases and manages end to end delivery from design, System Testing, Release Planning, Go live support and post production support.

Benefits

- Increases application effectiveness by identifying and incorporating new functionalities taking into account different business scenarios
- Increases operational efficiency of supported business process
- Facilitates clients "Time to market" objective by planning & ramping up resources if required

Application Integration Services



Definition

The aim of the service is to increase business productivity by means of integrating applications through building new interfaces or by modifying the existing ones. The service covers both online and offline (file based) interfaces.

Activities

- Identify and analyze a business need for developing new interfaces and/or modifying existing interfaces
- Identify reusable components and assess the existing application capability
- Design and develop (reusable) interfaces considering the integration requirements between applications
- Perform testing and support deployment of the newly developed / modified interface

Benefits

- Reduced total cost of ownership by building & using reusable components
- Increased business process efficiency by eliminating point to point interfaces wherever possible
- Up to date documentation on interfaces and data exchanges between different applications
- Reduced —time to market through ready to use interfaces

Business Solution Delivery



Definition

- Focus on client's business context and environment in order to provide innovative and efficient solutions
- Maximize the usage of implemented systems and technology
- Ensures completeness of the solution by considering business dimensions & process till implementation

Activities

- Analyze standard service requests and provide recommendations for attaining a stable functionality, primarily through application enhancements, wherever applicable
- Prepare an optimal solution design with minimum system changes
- Provide estimates and plan for the Business Requirement Documentation
- Develop Business Requirement Document considering all aspects
- Support end to end implementation of the solution including acceptance testing

Benefits

- Provides insights on the existing applications from a business perspective
- Efficient utilization of implemented systems and technology.
- Reduced 'Time to market' by avoiding / reducing efforts required for system.
- Reduced time required in the design, development and testing phase through precise understanding of business needs

Regulatory Compliance Service



Definition

- The primary objective of the service will be to handle compliance related requests (e.g. SOX, HIPAA etc.) and execute changes in the applications within the stipulated timelines.
- It focuses on development and implementation of solutions to support regulatory requirements.

Activities

- Manage requests from clients through its lifecycle with respect to regulatory and compliance
- Ensure necessary controls are in place to facilitate compliance requirements
- Support customer in identifying sensitive data and facilitate masking of the same in non-production regions
- Support any regulatory audits, compliance assessments and data-gathering exercises, as requested by customer. These activities may also include internal or external audits
- Track compliance audit findings to closure.

Benefits

- Eliminates / reduces legal exposure of business systems that support major/critical business processes.
- Enables complete audit trail of system changes for facilitating audit to compliance requirements
- Reduces compliance related effort and costs
- Reduces data security risks when delivering applications / enhancements

Application Strengthening



Definition

- The primary objective of service is to proactively prevent problems in the production environment through application code-related changes, configuration changes and changes in design that are bound to improve the overall reliability of the application.

Activities

- Analyze data such as capacity / performance assessment report, technology /design Assessment report, identify bottle necks in critical application components like interfaces which may impact production
- Analyze observations made by production Support team and developers; identify issues that will impact production environment
- Prioritize the problems based on business impact and determine the most appropriate and cost effective solution to resolve the identified problems
- Design / develop the solution, conduct simulation testing and support go-live activities

Benefits

- Higher availability and stability of Applications
- Higher productivity of business and IT
- Increased application relevance
- Reduced operational costs through reducing influx
- Improved Customer Satisfaction

Release Planning



Definition

- Focuses on planning of all activities that are essential in performing a release like design and build strategy, validation and test models, release acceptance, deployment approach including any communication/training and release review mechanisms.
- This service is an integral part of any incremental software development and maintenance activities

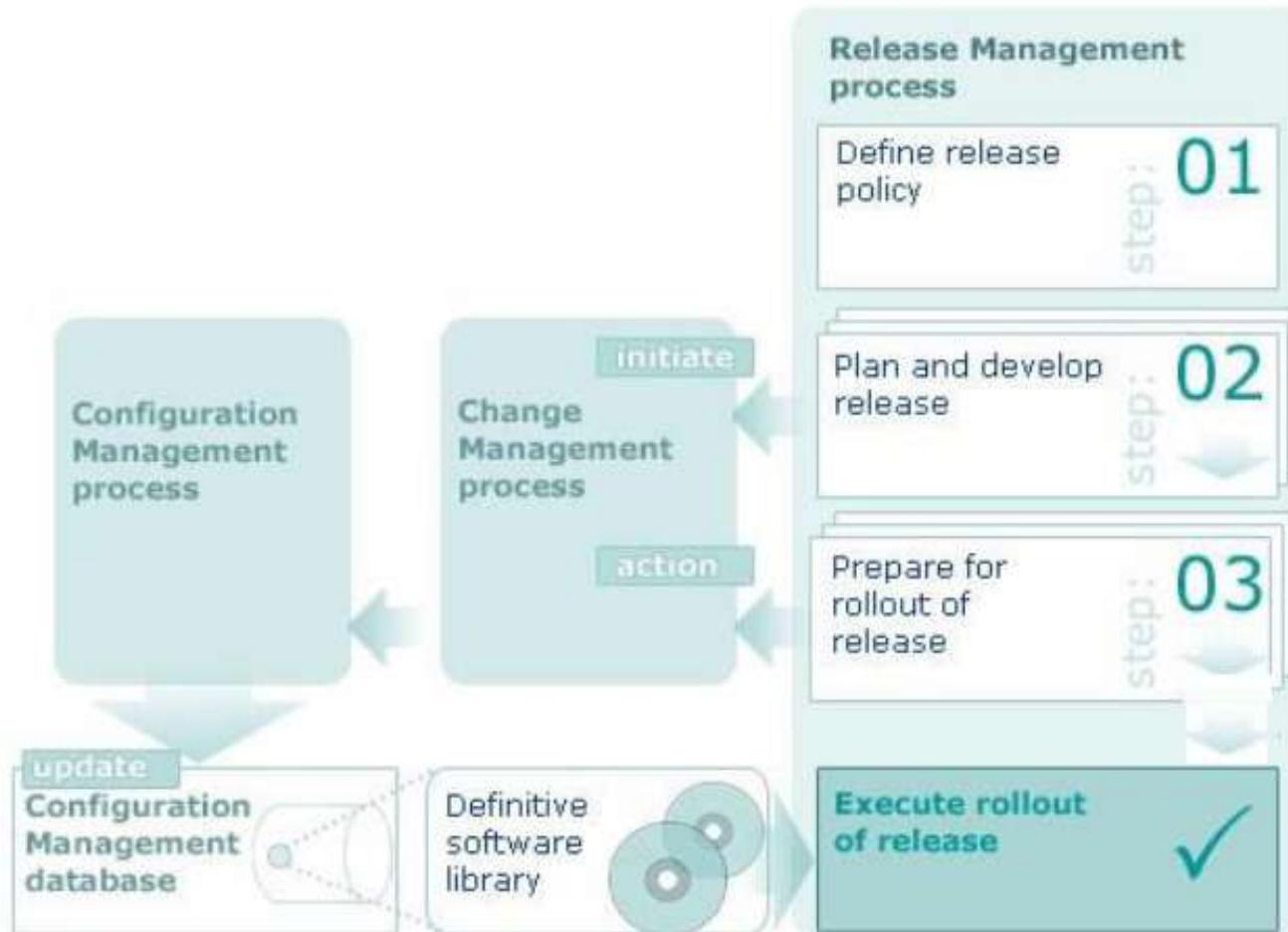
Activities

- Identify the release unit to be deployed
- Check whether the release is in-line with the release policy
- Look for opportunities to logically consolidate multiple changes into a single release
- Develop a schedule for the release with mutually agreed upon dates.
- Generate a build and test plan
- Prepare a detailed deployment plan that covers the deployment strategy and document fall-back plan

Benefits

- Perform releases faster with minimal risk and optimum cost
- Maintain the competitive edge in the market space –Speed to market||
- Ability to absorb large volume of changes with no or minimal planned downtime
- Ensure releases are communicated effectively to the target users / community so that the benefits of the release are maximized
- Ensure consistent methods are followed across releases resulting in repeatability and standardization

Release Management Flow



Environment Management Services



Definition

- Service focuses on optimal utilization of the customer's investments on the non-production environment
- The service also highlights the need of separate environments for development, testing and training especially in case of critical applications
- The Service ensures availability, stability and maintainability of non-production environments.

Activities

- Receive requests and liaise with infrastructure teams to provision new non-production environment or requests to fix issues in an existing non production environment
- Establish SLA's for environment related issues / provisioning
- Verify the newly created environment for completeness
- Restore production data with necessary data-masking into non production regions for critical / need based testing

Benefits

- Reduces the build and deployment time for new environments
- Reduces number of resources required to support and maintain non-production environments
- Increases hardware utilization and efficiency and decreases environment downtime
- Ensures compliance to security and regulatory standards
- Eliminates business risks by ensuring, testing and validation are conducted in environments that are similar to production regions

Assessment Services



Application Rationalization Study:

Application Rationalization study comprises of an end-to-end analysis of the application portfolios in each line of business, identifying the overlapping functionalities, unused applications and bottlenecks in systems. Managing applications as assets, eliminating liabilities and laying the groundwork for future-proof IT initiatives are the overall goals of this service. Total Cost of Ownership and operational costs can be reduced through rationalizing applications.

Technology / Design Assessment:

This assessment service focuses on assessing the design and technology architecture of an application and analyzes whether it will support future business growth and planning, it is in alignment with industry best practices and it supports the overall stability and extensibility of the application

Capacity & Performance Assessment and Planning:

Service focuses on analyzing the existing demand on the applications and planning for the growth in future. This is done by forecasting increase in consumers (users) of the application and trending the associated peak usage periods in order to meet application and the underlying system capacity requirements.

Transformation Services



Application Optimization and Tuning:

Focus of this service is to prioritize, repair, and prevent performance problems before users and the business are impacted—thereby improving the customer experience and IT efficiency

Application Consolidation:

Service focuses on consolidating multiple applications which are similar in nature into a cohesive IT application landscape thereby streamlining client's business services, application and system utilization and overall value.

Application Decommissioning:

The primary objective of this service is to identify applications that are redundant and unused so that they can be decommissioned to provide significant hardware, software and maintenance cost savings, as well as improved operational efficiencies.

Transformation Services



Application Reengineering and Modernization:

Focus of this service is to optimize the performance and improve service quality by transforming IT applications / systems into newer technology platforms, frameworks, and software products.

Application Upgrade/Migration:

The primary objective of this Service is to enable clients to adopt new technologies or modernize the existing application stack to ensure higher degree of maintainability while reducing operational costs.

The Service encompasses migration solutions like Database migration, Language migration (higher versions), OS migration etc. Service ensures provision of both pre-migration and post-migration support and enables a smooth transition from one platform to another without any undue performance lapse or process stagnation.



Enhancement services rendered by L4 Support with Alias Name

Service Name	Performed by	Alias Name	Service Catalog
Functional Enhancements	L4	Minor / Major Functional Enhancements	Managed Application Services – Enhancement Services
Application Integration Services	L4	New/Modify Interfaces Integration Services Application Integration	Managed Application Services – Enhancement Services
Business Solution Delivery	L4	Business analysis	Managed Application Services – Enhancement Services
Regulatory Compliance Services	L3/L4	Compliance Services	Managed Application Services – Enhancement Services
Application Strengthening	L3/L4	Proactive Problem Management	Managed Application Services – Enhancement Services
Release Planning	L3/L4	Release Management Deployment Management	Managed Application Services – Enhancement Services
Environment Management Services	L4	Test Environment Management Environment Maintenance	Managed Application Services – Enhancement Services



Assessment and Transformation services rendered by L4 Support with Alias Name

Service Name	Performed by	Alias Name	Service Catalog
Application Rationalization Study	L4	Application Consolidation study Portfolio Assessment	Managed Application Services - Assessment Services
Technology/Design Assessment	L4	Application Architecture Assessment	Managed Application Services - Assessment Services
Capacity & Performance Assessment and Planning	L4	Capacity Management Performance Management Performance Tuning Capacity Planning	Managed Application Services - Assessment Services
Application Optimization and Tuning	L4	Application Performance Tuning Application Optimization	Managed Application Services - Transformation Services
Application Consolidation	L4	Application Rationalization	Managed Application Services - Transformation Services
Application Decommissioning	L4	Application Retirement Application Sun setting	Managed Application Services - Transformation Services
Application Reengineering and Modernization	L4	Systems Re engineering	Managed Application Services - Transformation Services
Application Migration/Upgrade	L4	Migration Services	Managed Application Services - Transformation Services



Practical Case

- A banking client requires an additional module to be added in the online portal, to enable his customers to raise service requests online instead of visiting the bank in person. These service requests have to be processed, appropriate actions have to be taken further **and finally closed**.
- This is a new functionality addition **and goes through approval from business and finance**.
- It is then raised as an enhancement request (RFC - Request for Change) by the client **and goes through the Change Advisory Board (CAB) for approval**. Once approved it is passed onto L4 team **by the Change Manager**.
- L4 team provides the Functional Enhancement Service and hence carries out this enhancement as follows:
 - Analyzes the online application in terms of technology, underlying infrastructure, business functions and operational efficiency to ensure this enhancement can be carried out
 - Carries out the impact analysis of this change, arrives at the estimation and submits to the Business POC.
 - Once estimation is approved, L4 team plans the enhancement based on the capacity, available skillsets, scalability, dependencies with infrastructure and various other business functions and arrives at the target dates.
 - Submits the plan to the Business POC and once approved, L4 team starts with the development based on the approved Business Requirement Document (BRD)



Practical Case (Contd.)

The Development cycle can follow Agile or SDLC or can be test driven. The steps given below are followed as part of SDLC Methodology.

- Walks through the finalized BRD to the developers and testers
- Designs the functionality as per the signed off requirements
- Validates estimates based on the progress (post design estimation)
- Develops the new module as per the approved BRD
- Performs Unit testing of the developed module in test environment
- Performs System Integration Testing (SIT) and validates results
- Plans and supports UAT (Business User Acceptance Testing)
- Obtains UAT sign-off
- **As part of release planning service, identifies the release units to be deployed ,** develops a release implementation plan, seeks release acceptance from the Release Control Board and finalizes release date
- Initiates Knowledge Transition to support teams (**L0, L1, L2 and L3**) on the new module to-be implemented in the online portal
- Notifies the release date to all relevant stakeholders
- Provides deployment support, as required
- Verifies production services during and after "Go-Live" **and works with support teams L0 and L1 to see if the release is accepted.**
- Provides Early Life (warranty) Support as agreed
- Upon successful implementation, initiates closure of RFC.

Questions





Check Your Understanding

1. What is L4 Support?

[Ans] L4 Support is synonymous with level 4 support, support line 4, high-end support and enhancement team. L4 Support is the highest level of support in a four-tiered technical support model and is responsible for handling the major functional enhancements

2. Name the enhancement services performed by L4?

[Ans] Functional Enhancements, Application Integration Services, Business Solution Delivery, Regulatory Compliance Service, Application Strengthening, Release Planning and Environment Management Services

3. Name the assessment services performed by L4?

[Ans] Application Rationalization Study, Technology/Design Assessment and Capacity and Performance Assessment and Planning

4. Name the transformation services performed by L4?

[Ans] Application Optimization and Tuning, Application Consolidation, Application Decommissioning, Application Reengineering and Modernization and Application Upgrade/Migration

5. Which service provided by L4 deals with new functionality additions?

[Ans] Functional Enhancement services

6. Which service of L4 deals with identifying applications that are redundant and unused so that they can be sunset?

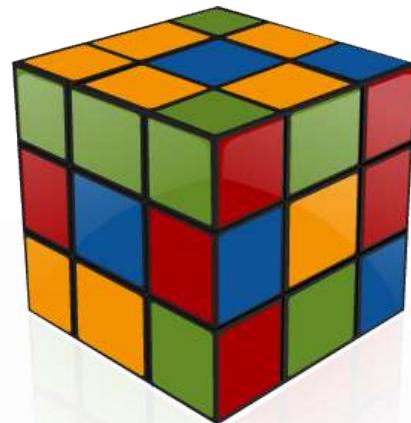
[Ans] Application Decommissioning service



Summary

- L4 Support is the highest level of support in a four-tiered technical support model and is responsible for handling the major functional enhancements
- L4 Support is synonymous with level 4 support, support line 4, high-end support and enhancement team
- L4 team works on Functional Enhancements, Application Integration Services, Business Solution Delivery, Regulatory Compliance Service, Application Strengthening, Release Planning and Environment Management Services
- L4 teams works also on Assessment services and Transformation services
- Reference

http://itil.osiatis.es/ITIL_course/it_service_management/problem_management/overview_problem_management/overview_problem_management.php



AVM Service Line

You have successfully completed L4
Support and Service Based Delivery



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

Knowledge Transition

LEVEL – LEARNER





Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview

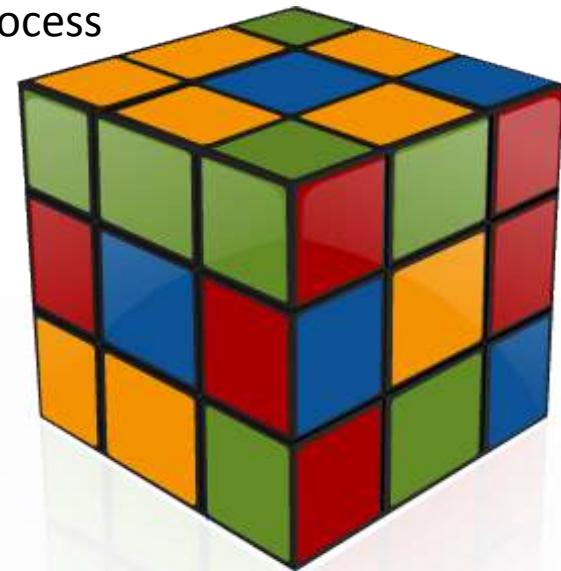


This session helps you in understanding the Knowledge Transition phase in AVM Engagements - its importance, various stages, tools and metrics involved

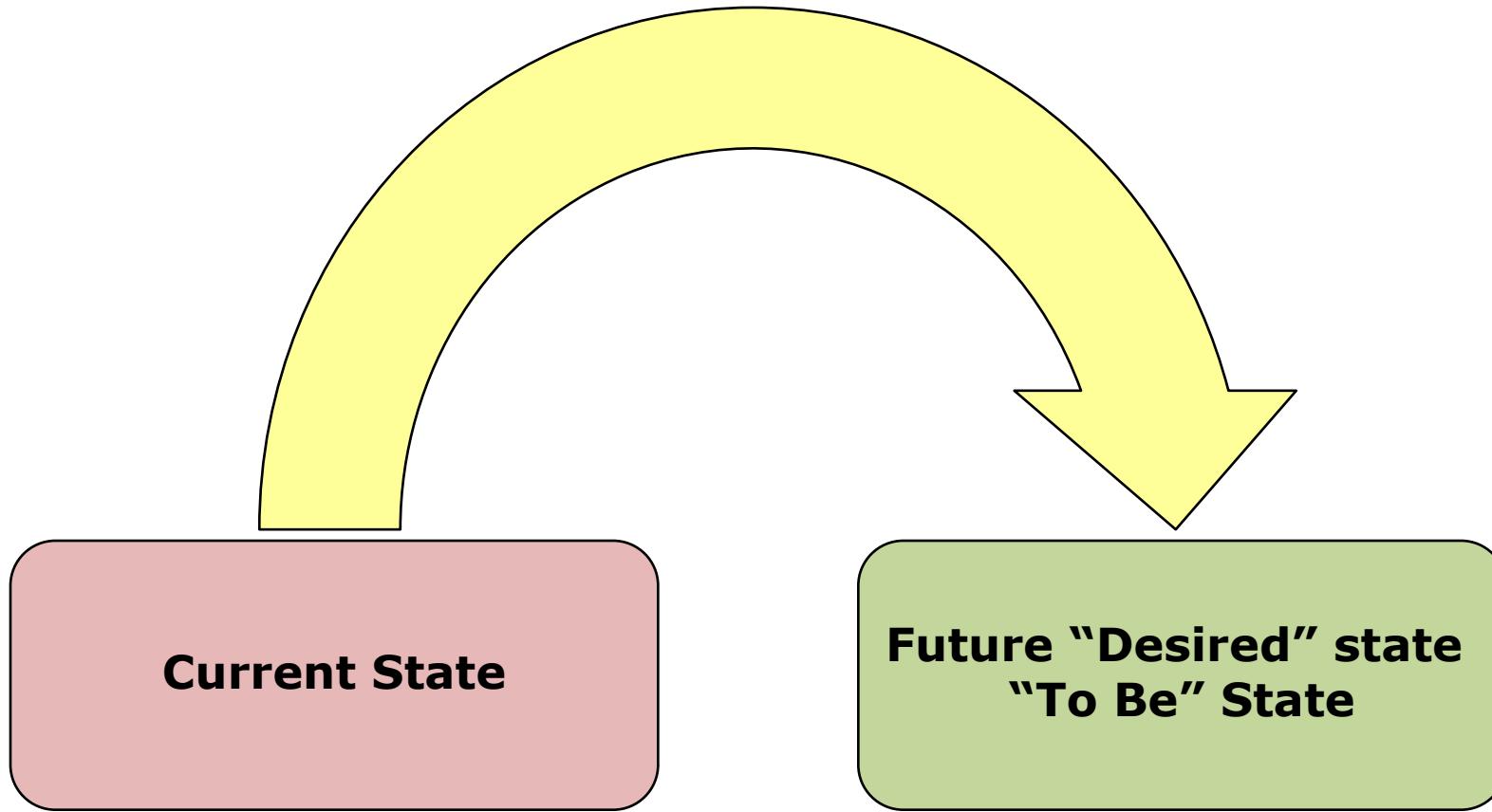


Objective

- Understand what Transition means in AVM engagement
- Introduction to AVM lifecycle and detailed description of the various phases in the Cognizant Transition methodology
- Understand the criteria for a good Knowledge Transition Process
- Understand the various stages in the Cognizant Knowledge Transition Methodology
- Understand Critical Success Factors
- Understand the various Metrics captured in KT process
- Understand Transition Tools & Enablers



"Transition" General Meaning



the process or a period of changing from one state or condition to another

e.g. *students in transition from one programme to another*

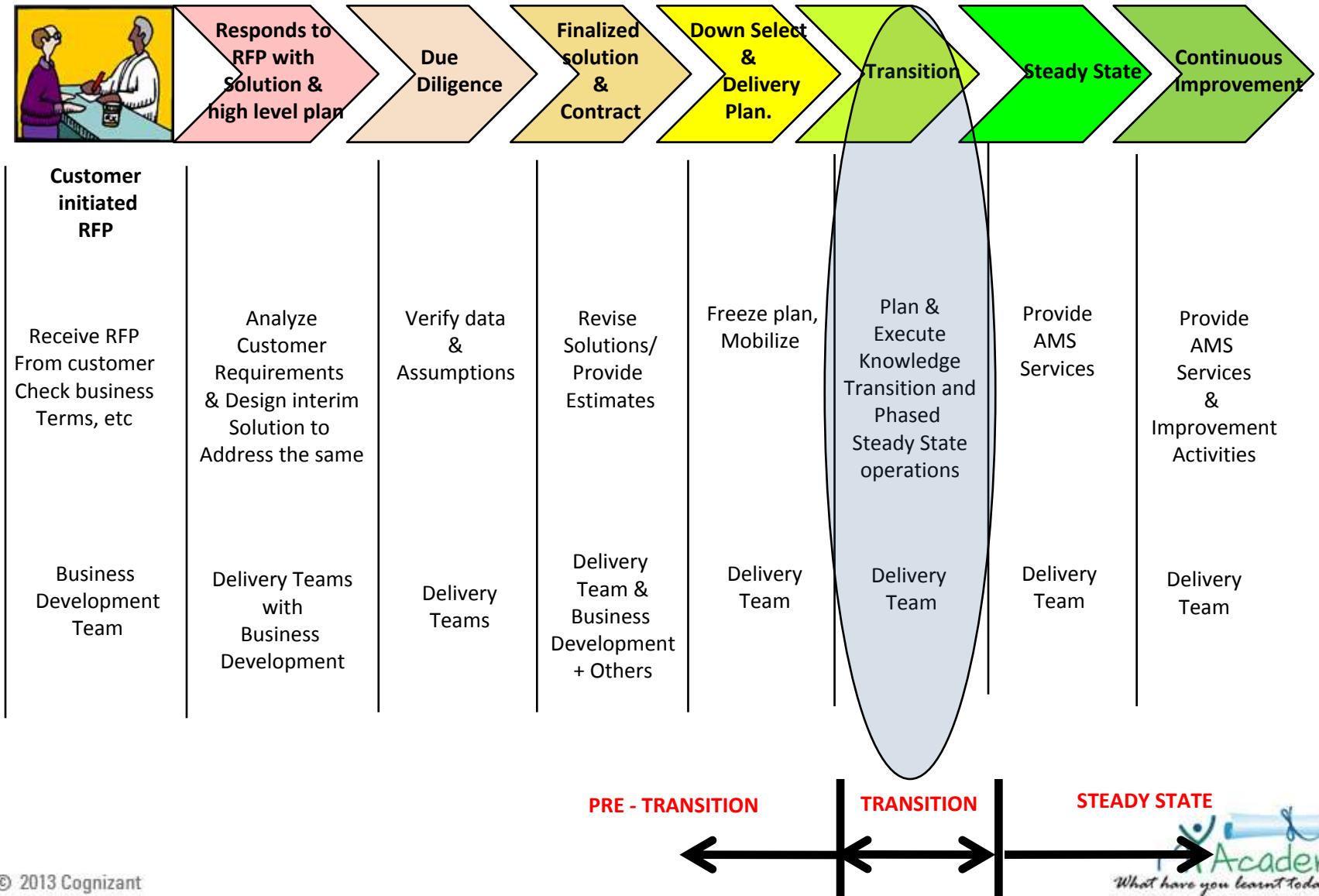
a transition to multiparty democracy - Oxford Dictionary

Transition in the AVM Context



- ❑ Ensure movement of activities from incumbent team to Cognizant:
 - » Without impacting services to the customer
 - » In a structured and orderly manner
 - » In a cost effective and efficient manner
 - » With required transparency through metrics
 - » Allow for taking over services as per required SLAs in the available time frame

AVM Project Lifecycle – The Big Picture





Criteria for a Good Knowledge Transition Process

- ❖ Must be measurable.
- ❖ Standard methodology and must use standard tools and templates to capture Knowledge which is one of the most important product of the transition.
- ❖ Must be repeatable in phases if required.
- ❖ Must be customizable for the situation or application, such as, very large application or very small application and so on.
- ❖ Must be acceptable to the customer & contractual requirements.

Objectives of Knowledge Transition



Gain required knowledge in a:

- ❖ Standardized manner from existing team.
- ❖ In a structured and phased manner to take on support activities.
- ❖ Manner that is measureable (Metrics)
- ❖ With “No surprises” to all stakeholders
- ❖ To start required service and meet SLAs

Various Phases of Knowledge Transition



Responds to RFP with Solution & high level plan

Due Diligence

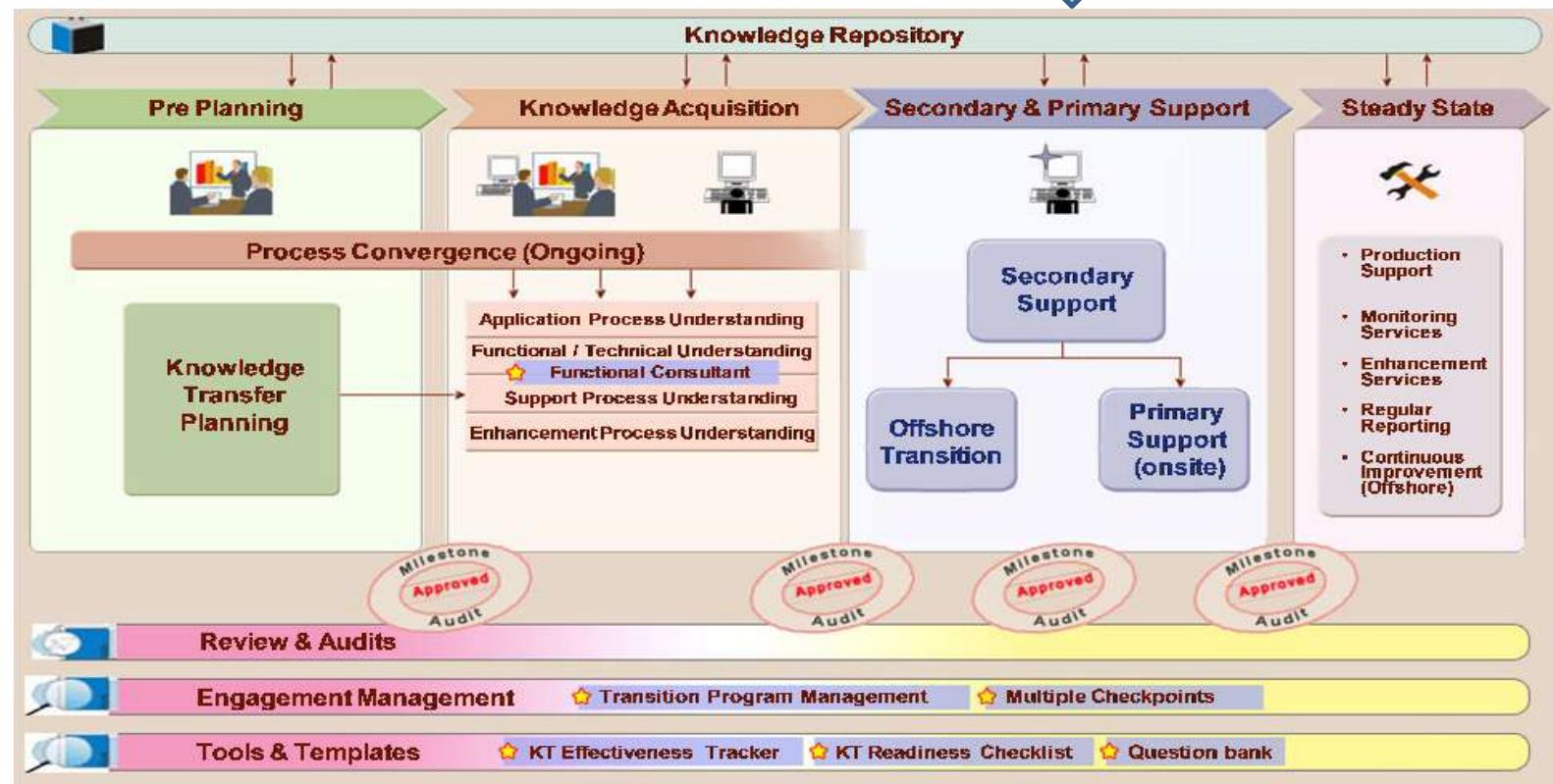
Finalized solution & Contract

Down Select & Delivery Plan.

Transition

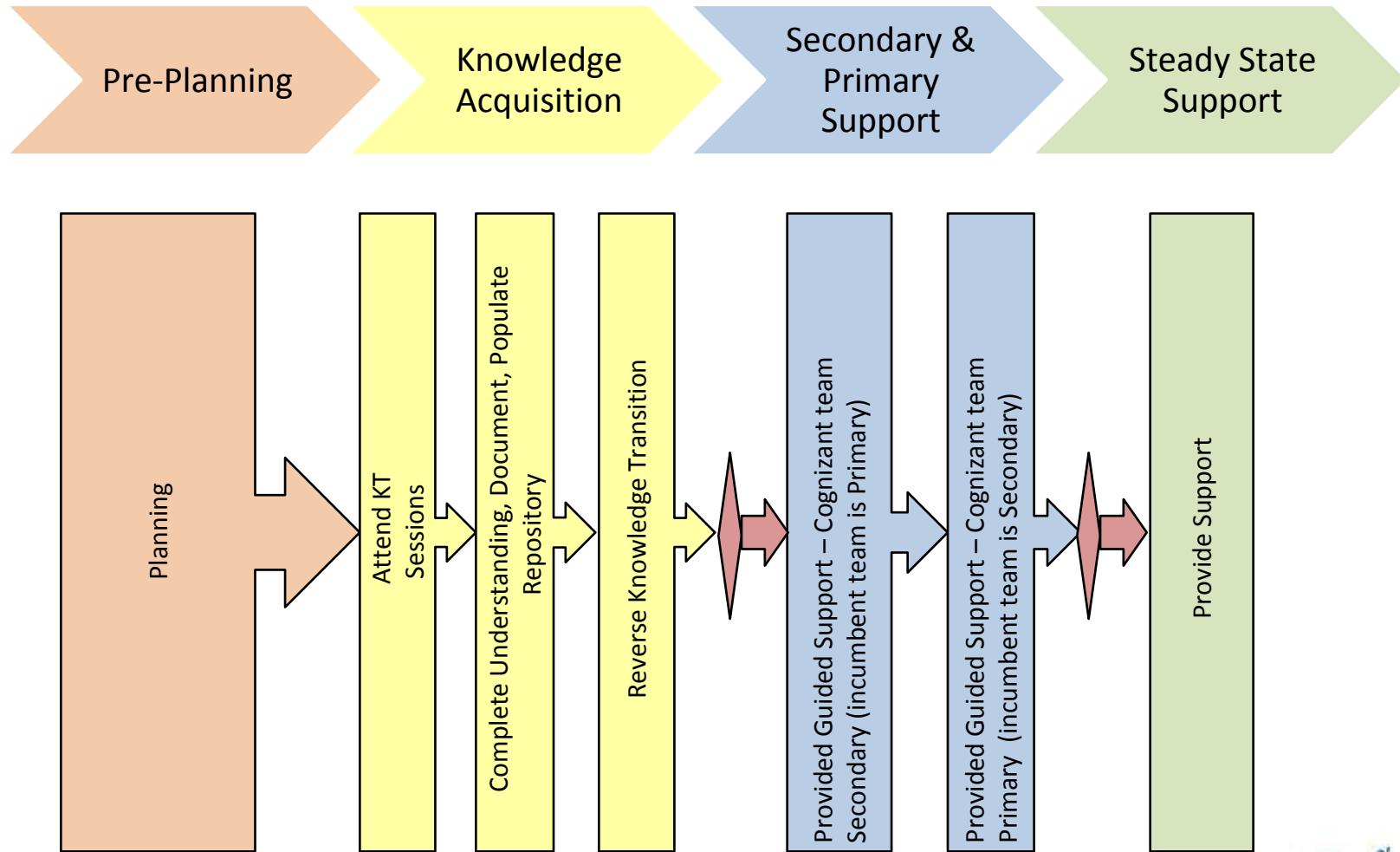
Steady State

Continuous Improvement





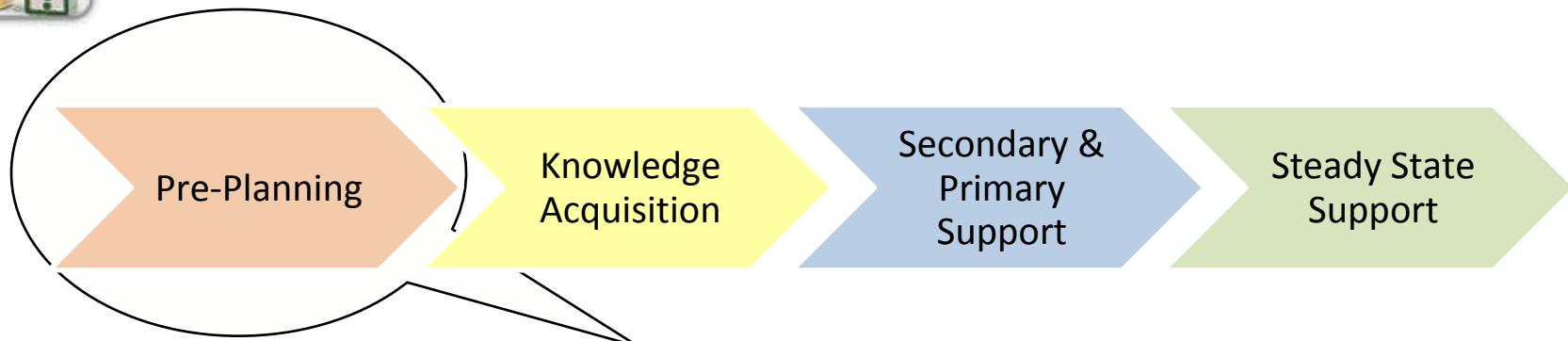
Knowledge Transition Stages: Simplified





Key Knowledge Transition Stages: Pre Planning

Cognizant



Key Activities:

- » Plan the “Knowledge Transition Project”, based on timelines and in association with customer setup the Transition Organization.
- » Analyze application related data and schedule Knowledge Transition for each application.
- » Finalize list of Subject Matter Experts (SMEs) from customer for each application.
- » Prepare detailed plan based on SMEs availability and seek approval from customer.
- » Get required infrastructure (PCs, Connectivity in place).
- » Plan for required team members to join the team, travel plans, and so on.
- » Setup required tool and processes to monitor the project (including Project Knowledge Base).



Key Knowledge Transition Stages: Pre Planning (Contd.)

Cognizant

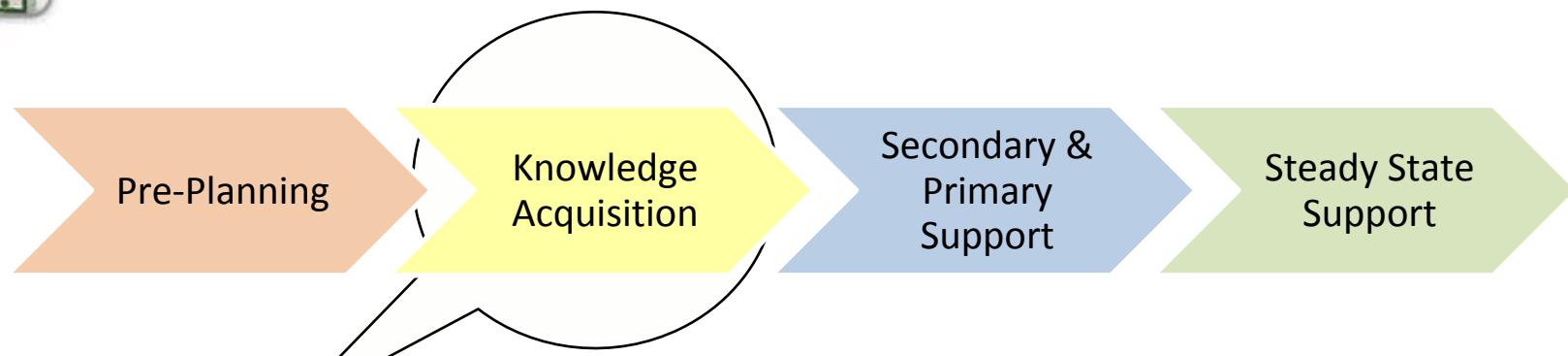
□ Outputs:

- Approved Knowledge Transition plan with Governance & Steering Committee, Communication.
- Process, Monitoring process, Risk Mgmt. Process.
- Detailed Knowledge Transition plan (SME schedule + other).
- Setup of Initial Knowledge Repository & Boot Camp (Induction Deck for team).
- Other start up activities, such as, Team mobilization, travel plan, Infrastructure and Communication plans.



Key Knowledge Transition Stage: Knowledge Acquisition

Cognizant



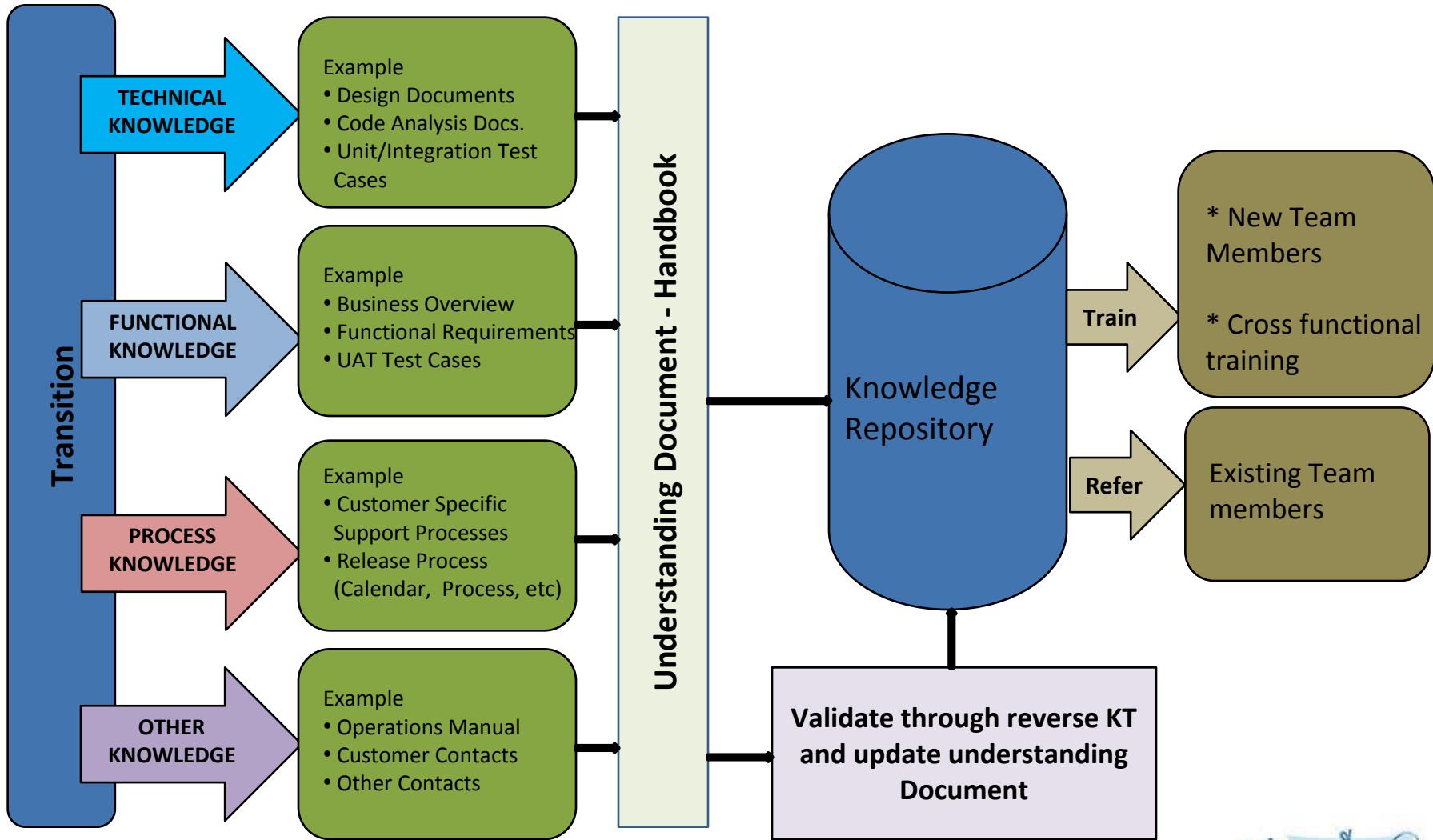
- Attend KT sessions, as per the detailed plan.
- Gain understanding of all applications from Business, User and Technical aspects including:
 - » Functional (what the application does, why, what is the business process and so on)
 - » Technical (Architecture and landscape, issues and so on)
 - » Process: What happens, when and how.
 - » Others: Example who to contact, critical timelines and so on.



Key Knowledge Transition Stage: Knowledge Acquisition (Contd.)

- Document understanding and brain storm, if required.
- Update Knowledge repository.
- Plan for Knowledge Validation sessions, such as, Reverse Knowledge Transition.
- Measure KT completion metrics.
- Output: Updates to Knowledge Repository.
- Documentation: Understanding Documentation with Business.
- Process, Tech. Landscape & Architecture, Customization and so on.
- Reverse KT Presentation (validate knowledge gained).
- Knowledge Transition Metrics.

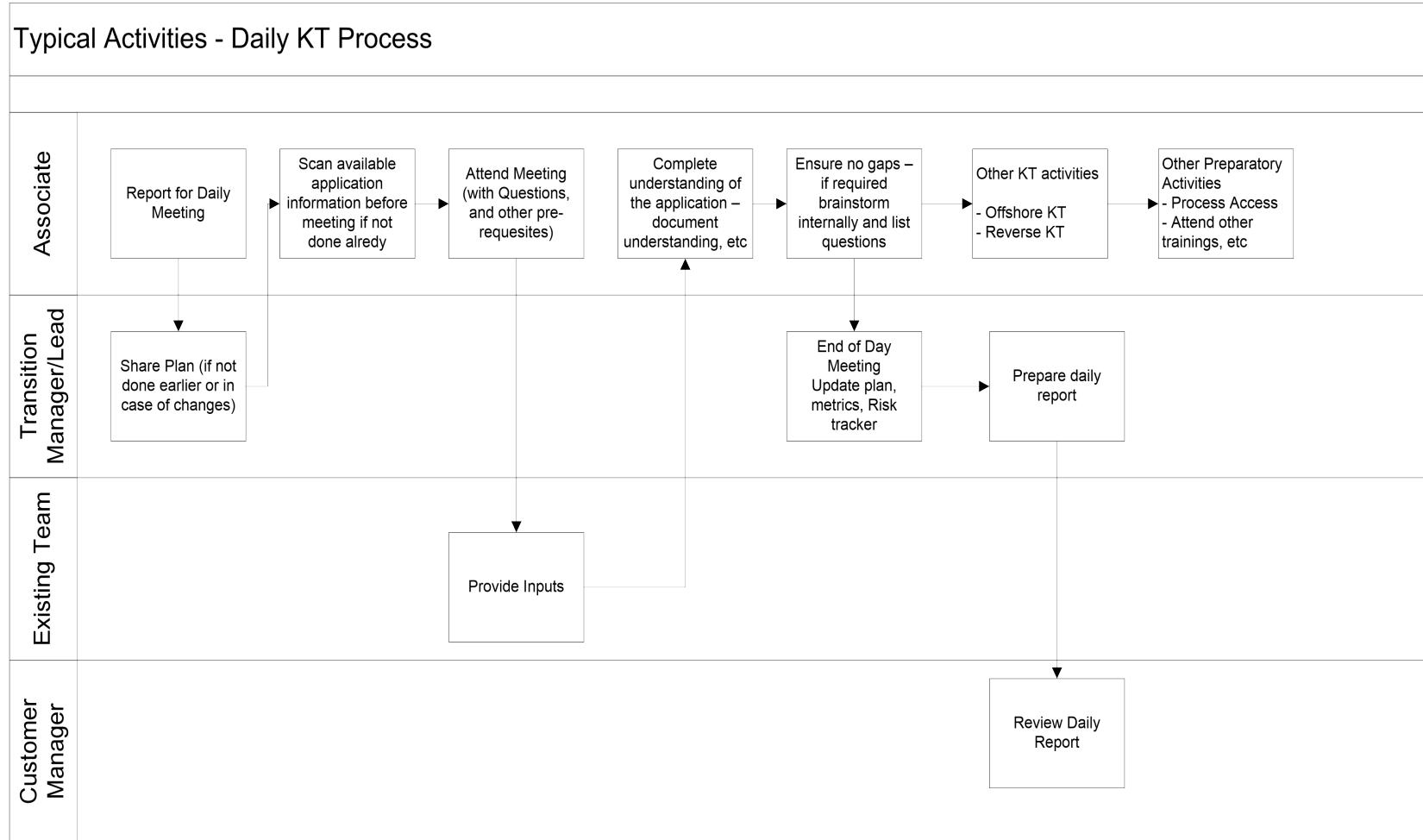
Knowledge Acquisition process



Typical Day: Knowledge Acquisition Phase



Typical Activities - Daily KT Process



Knowledge Acquisition: Risks

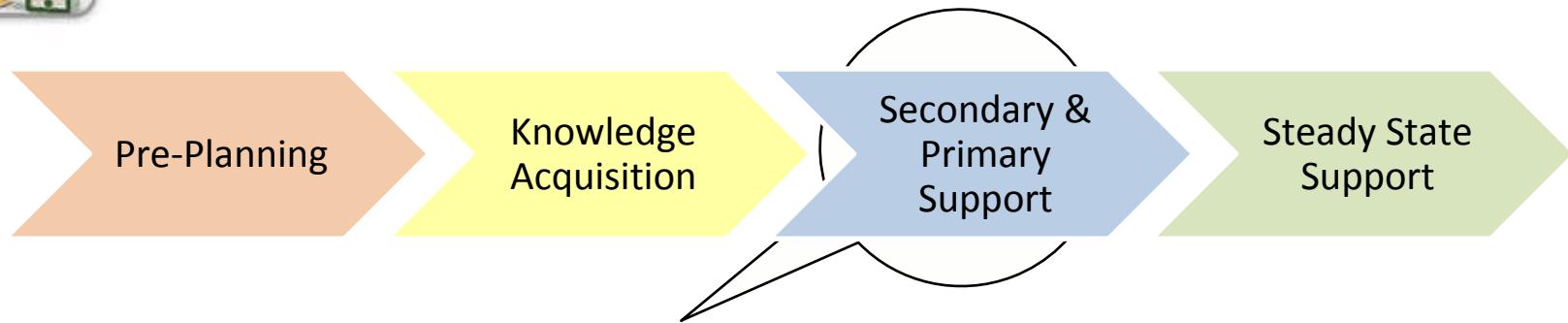


Risk	Risk Mitigation
Non availability of the key client personnel for the expected duration during the knowledge transition phase	<ul style="list-style-type: none"> ▪ If incumbent team does not attend pre-agreed meetings immediately bring to the attention of Team Lead to ensure triggering of escalation procedure. ▪ Use Available time to analyze documentation and use non-formal means to gather information on the application
Applications with little or no documentation along with very limited institutional knowledge	<ul style="list-style-type: none"> ▪ Using alternate sources such as past tickets, interaction with users, and reverse engineering tools (static code analysis, etc) ▪ Also during daily meetings raise the open issues develop in-depth questionnaires (if this is not adequate) and highlight alternates being worked on.
Delay in clarifications sought from users and client support functions, such as system/ database administration will impact schedules.	<ul style="list-style-type: none"> ▪ Use alternate means to gain knowledge and also escalate through formal channels.
Depth of knowledge transitioned from the client staff (employees and contractors) is not sufficient	<ul style="list-style-type: none"> • In case of generic techno-functional gaps check for on boarding deck (boot camp) also check with ▪ Check with client to ensure gaps are addressed
Key client personnel (staff/ contractors) depart before knowledge transition to Cognizant team is complete ("flight of knowledge" and "attrition" risks).	<ul style="list-style-type: none"> ▪ Reprioritized knowledge sharing activities
Non-Compliance to agreed plans and schedules for KT	<ul style="list-style-type: none"> ▪ Cognizant monitors the progress of transition and shares the same with client on a mutually agreed frequency.



Key Knowledge Transition Stages: Secondary & Primary Support

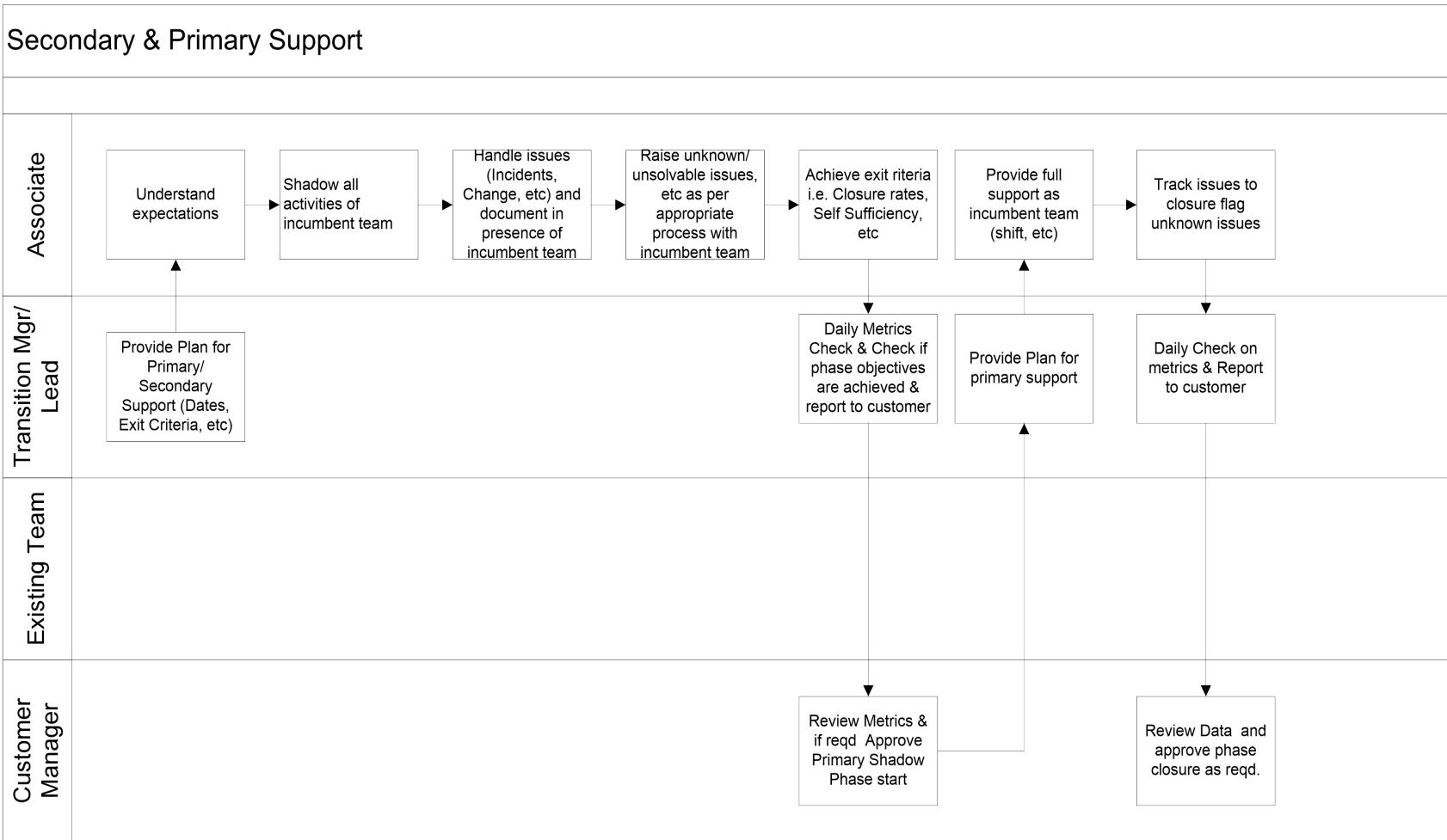
Cognizant



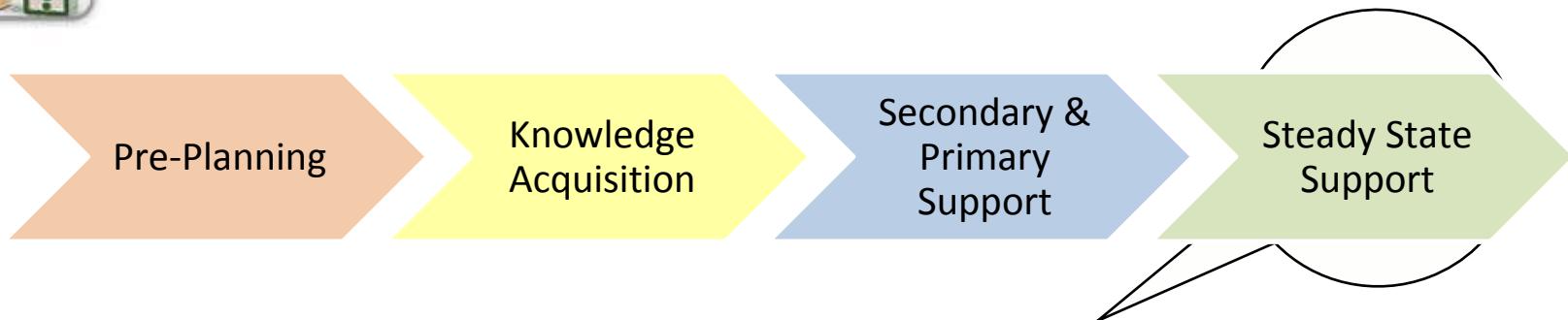
- Secondary support (or) Shadow Support (with assistance from existing team)
 - The current team would share few less critical tasks to the Cognizant team and would expect the team to be independent in meeting the SLAs. This is an optional phase.
 - In short this involves supporting entire cycle of tickets including updates to tools and so on
 - Update Knowledge repository (Ticket know how and so on).
- Primary Support (or) Reverse Shadow Support
 - Provide full support to customer with no inputs from existing team
 - Cognizant assumes responsibility for the maintenance activities from offshore at the desired service levels.
 - Create Metrics Report E.g. The percentage of tickets that Cognizant team solves without inputs from the current team is a measure of the effectiveness of the previous stages.
 - Ensure readiness for Steady State support.



Typical Activities: Secondary & Primary Support



Key Knowledge Transition Stages: Secondary & Primary Support (Contd.)



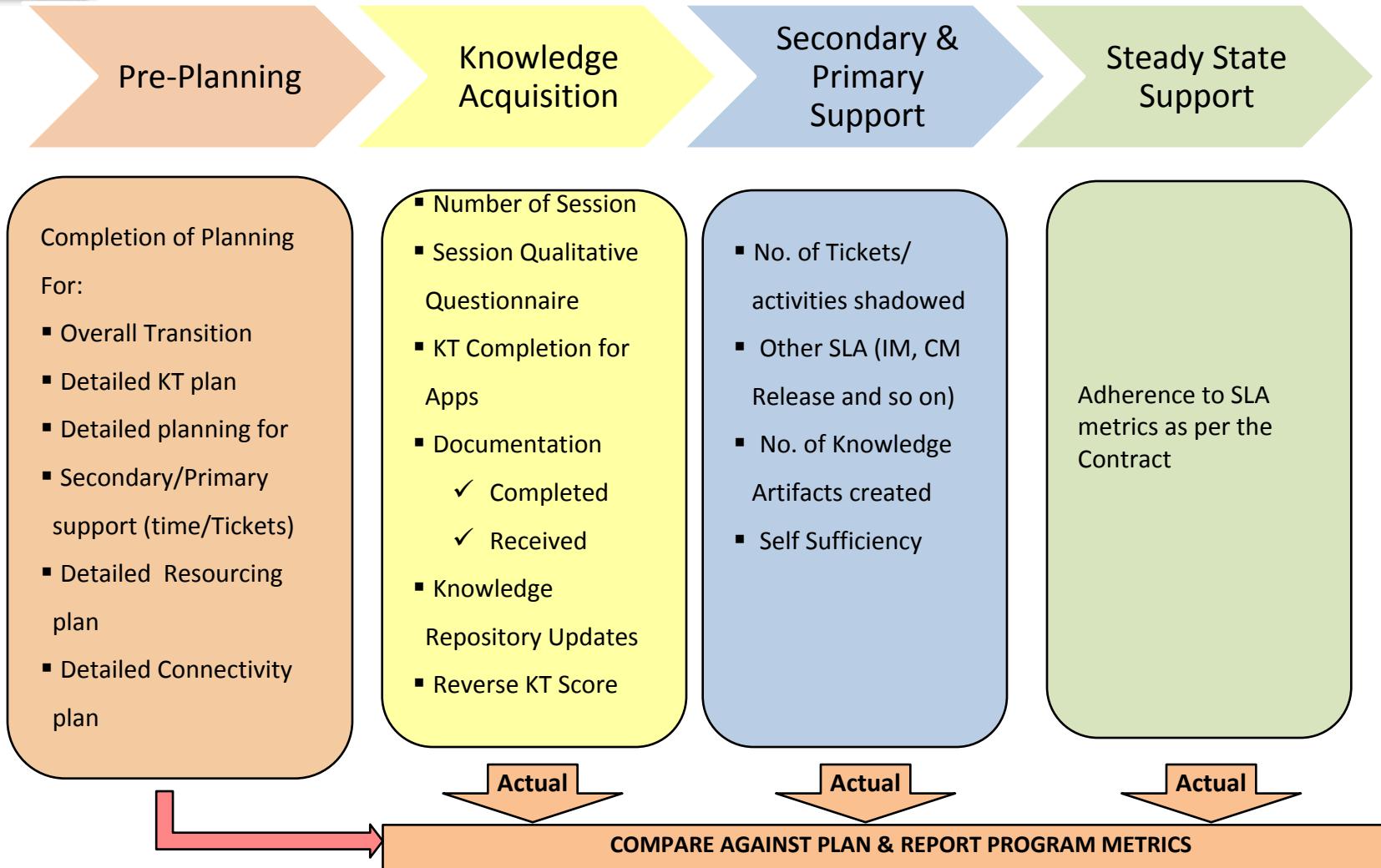
- ❑ Moving toward steady state involves managing all aspects of project execution by controlling process activities .
- ❑ It also involves achieving a desired steady state of managing services on a day-to-day basis, in-order to reduce the costs of IT services & to achieve a highly desirable, steady state of service management .
- ❑ Ensure that all SLAs are met during the Steady State Period.
- ❑ Track Metrics to ensure support is in line with customer's contractual requirements.

Critical Success Factors

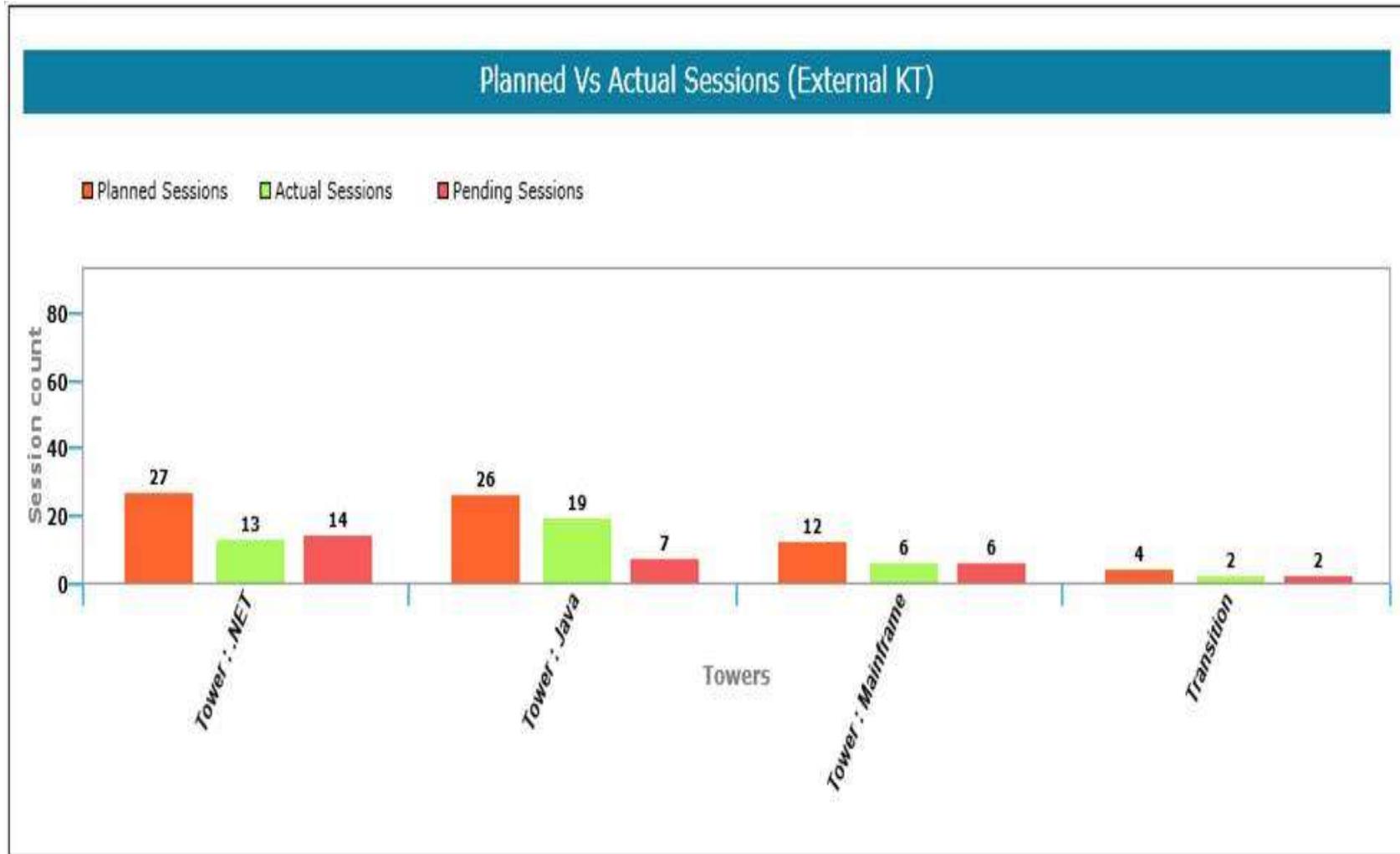


- Get an overview of each phase of the project and customer.
- Understand overall transition plan and ensure timelines of all phases and activities
- Seek inputs on Team structure for Cognizant, Customer, Incumbent vendor and other groups, which are involved with the support activities.
- Ensure the day to day alignment of objectives and provide data on completion.
- Comprehend customer's SLAs and read the documentation carefully.
- Ensure coverage for Functional areas (from Cognizant Functional SME or from Customer's SMEs).
- Ensure documentation are done in a timely manner and also required documents such as the understanding document are prepared on a daily basis to reduce "lag" (time and knowledge gaps).

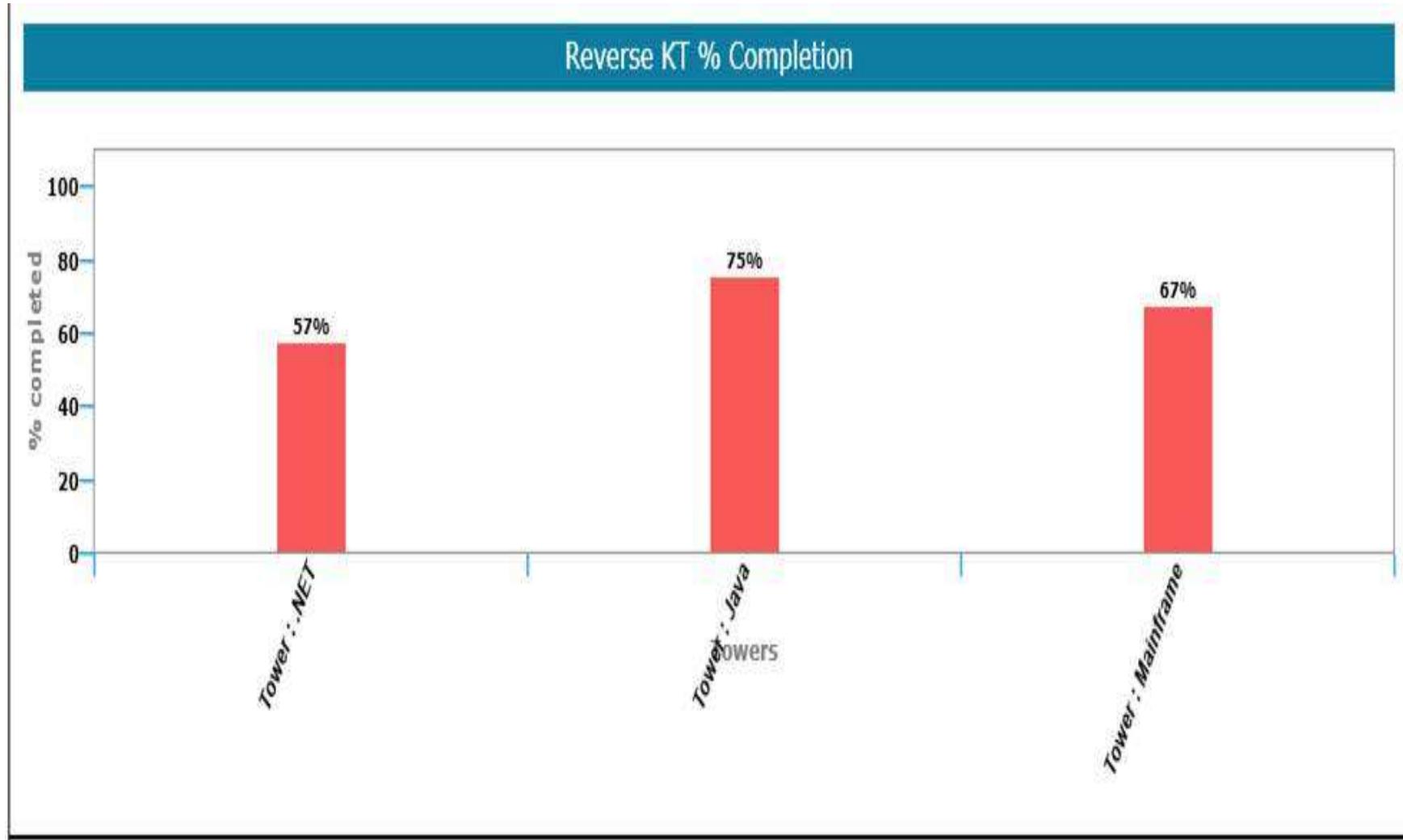
Metrics captured in KT



Metrics captured in KT (Samples)



Metrics captured in KT (Samples)



KT Project Plan and Portal



Task Name	Duration	Start	Finish	Predecessors	Participants in Sessions	SME	Add New Column
TRN-CGS-Cloro-36	49 days	Tue 4/23/13	Fri 6/28/13				
+ Due Diligence	14 days	Tue 4/23/13	Fri 5/10/13				
+ Acclimatization	13 days	Tue 5/7/13	Thu 5/23/13				
- Process and Infrastructure Setup	40 days	Mon 5/6/13	Fri 6/28/13				
+ Process Transition	1 day	Tue 5/21/13	Tue 5/21/13				
+ Infrastructure Transition	30 days	Mon 5/6/13	Fri 6/14/13				
- Tools and Other Transition	40 days	Mon 5/6/13	Fri 6/28/13				
ServiceNow Usage Training	1 day	Wed 5/22/13	Wed 5/22/13		All	NA	
- Transition Execution	40 days	Mon 5/6/13	Fri 6/28/13				
- Tower : Data & Reporting	37 days	Thu 5/9/13	Fri 6/28/13				
Data and Reporting	37 days	Thu 5/9/13	Fri 6/28/13				
SAP BW	37 days	Thu 5/9/13	Fri 6/28/13				
KA	22 days	Thu 5/9/13	Fri 6/7/13				
KT Sessions	20 days	Fri 5/10/13	Thu 6/6/13				
7300 - Sales Cube (Adhoc Analysis)	1 day	Fri 5/10/13	Fri 5/10/13		Arun Piran	XXXX - SAP BW	
Sales Dashboard	1 day	Fri 5/10/13	Fri 5/10/13		All	XXXX - SAP BW	
7314 - Purchase Price Variance (PPV)	1 day	Mon 5/13/13	Mon 5/13/13		Arun Piran	XXXX - SAP BW	
8157 - Brand P&L	1 day	Tue 5/14/13	Tue 5/14/13		Arun Piran	XXXX - SAP BW	
8161 - Customer	1 day	Tue 5/14/13	Tue 5/14/13		Arun Piran	XXXX - SAP BW	

The KT portal can be accessed using the below link

<https://knowledgetransitionbeta.cognizant.com>



Tools & Enablers

Tool Name	Phase Used	Purpose
SharePoint/ Project Shares /wisdomTree	Entire Transition	Capture knowledge in a single point repository
Adobe Captivate/Cam-tesia/etc	Knowledge Acquisition & Secondary Support	Capture Demo's with voice (can be replayed by offshore team and for other reference)
Audio & Video Conferencing	Knowledge Acquisition & Secondary Support	Train Offshore teams and keep them in sync.
ITIL Tools (Remedy, Service Now, etc)	All phases including Steady State	Review historic tickets & gain know how
Understanding Documentation & Checklists	In Knowledge Acquisition phase	Created by onsite members (helps ensure understanding is complete) Also is used to remote train the offshore team
Code Analysis Tools	Knowledge Acquisition phase	For any of the following criteria 1. Quality of code (Standards, Security, etc) 2. Stop gap arrangement to gain knowledge when SMEs are not available
Knowledge Transition portal https://knowledgetransitionbeta.cognizant.com	This portal can be used to for all the phases of knowledge transition.	This portal can be used to for all the phases of knowledge transition (application analysis and Due diligence, KT plan , data analysis, team roster, transition execution by managing artifacts, SME details, and summary of reports)

Questions





Check Your Understanding

What are the objectives of Knowledge Transition? Answer [Refer Slide 9]

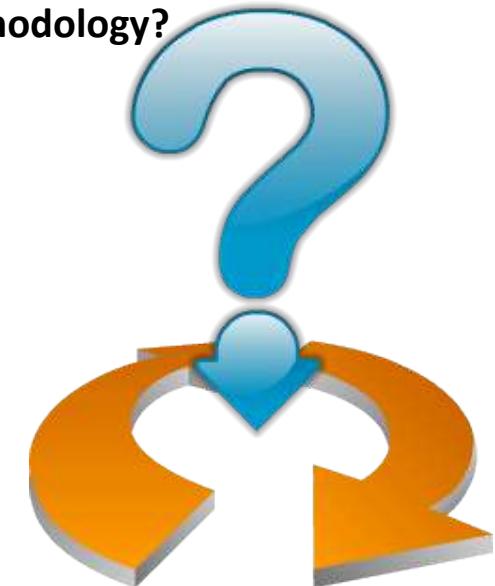
What are they key stages in the Cognizant knowledge Transition methodology?

- Pre-Planning
- Knowledge Acquisition
- Secondary & Primary Support
- Steady State Support

What are the key activities of the following stages

1. Knowledge Acquisition Stage
2. Steady State Support Stage
3. Secondary/Primary Support Stage

Answer[Refer slides 12,14,19 and 21]



What are the possible risks associated with Knowledge Acquisition phase?

Answer [Refer slide 18]

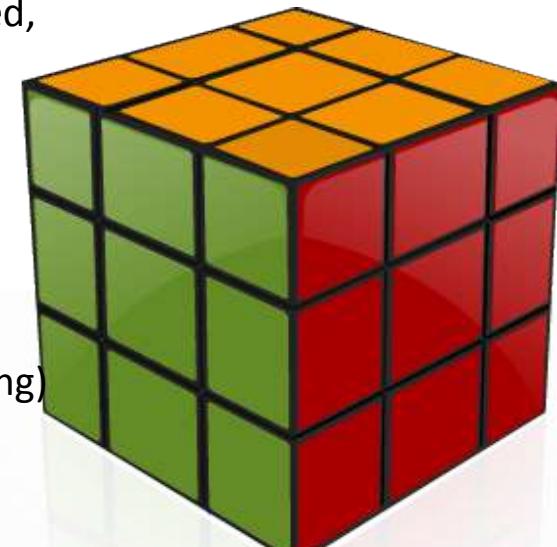
What are the various metrics captured in the Knowledge Transition phase?

Answer[Refer slide 23]



Summary

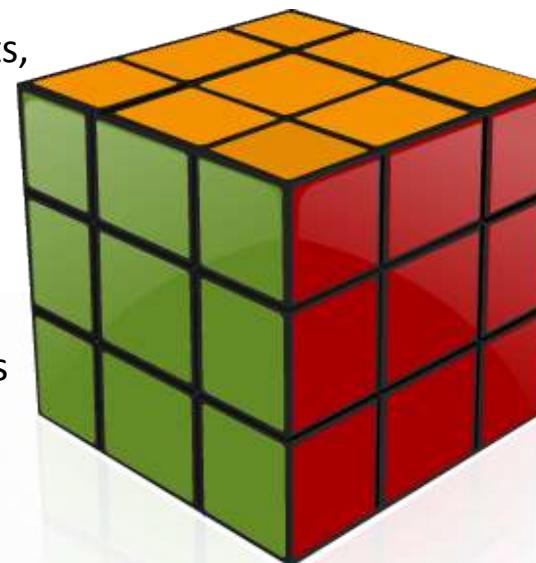
- The meaning of the word Transition specifically in the AVM context.
- The AVM lifecycle with various stages (i.e. RFP Response, Due Diligence, Contract, Down select & Delivery Planning, Transition, Steady State & Continuous Improvement)
- Criteria for good Knowledge Transition process (Measurable, Standard Methodology, Repeatable, Customizable)
- Key objectives of the Knowledge Transition process (Standardized, Structured, Measurable to enable Meeting of SLAs)
- Key stages in a Transition project (i.e. Pre-Planning, Knowledge Acquisition, Secondary & Primary Support & Steady State)
- Understand the stages and activities associated with Knowledge Transition.
- Secondary & Primary Support (Shadowing and Reverse Shadowing)





Summary

- Understand Critical Success Factors for a transition
- Metrics used during Transition across phases
 - ✓ Pre-Planning (Overall Transition planning across phases including KT planning, Secondary/Primary Support (time/Tickets baselines), Resourcing plan, Connectivity plan.
 - ✓ Knowledge Acquisition – Number of sessions scheduled, Number of sessions completed, Quantitative feedback results, number of applications for which KA has been completed, Number of applications for which repository updates have been done, Documentation completion, Reverse KT scores.
 - ✓ Secondary & Primary Support – Number of Tickets/activities shadowed/handled, SLAs (as per Steady state i.e. related to Incident mgmt., Change Mgmt., etc.), Self Sufficiency metrics
- Tools and Enablers used for the KT process like sharepoint, ITIL Tools etc



AVM Service Line

You have successfully completed -
Knowledge Transition



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

Change Request and Production support
ticket handling - Class room Session



LEVEL – LEARNER



Hands on Exercise



Reference



Questions

Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



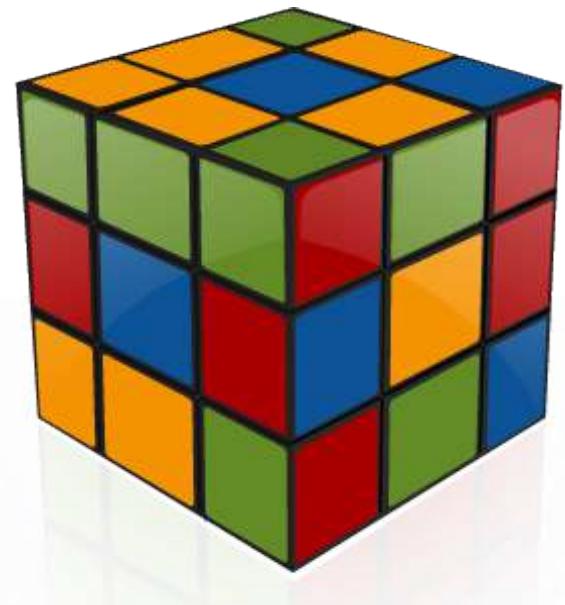
- This session will help you to understand the Change Request and Production Support ticket handling process, that a developer needs to know, to work with it



Objective of the Change request and Production Support ticket handling process is to provide knowledge on functional and work area in defect life cycle, small business enhancement request and how Problem/Incident ticket should be handled and step by step procedures to be followed whenever a problem/incident ticket is created

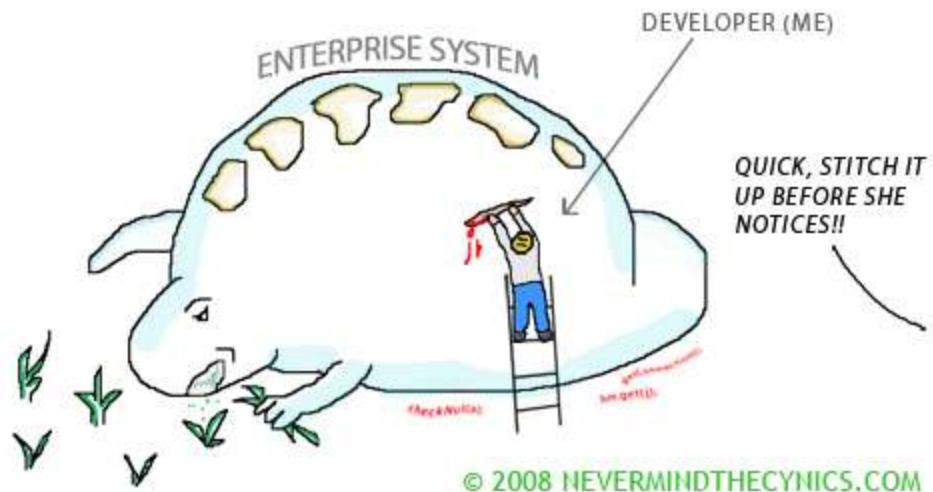
The key concepts discussed are :

- Overview of Change request
- Change Request Process Workflow
- Overview of Production support
- Types of Tickets/Incidents
- Procedures to follow ticket handling
- Service level Agreement





THE CHANGE REQUEST, ILLUSTRATED

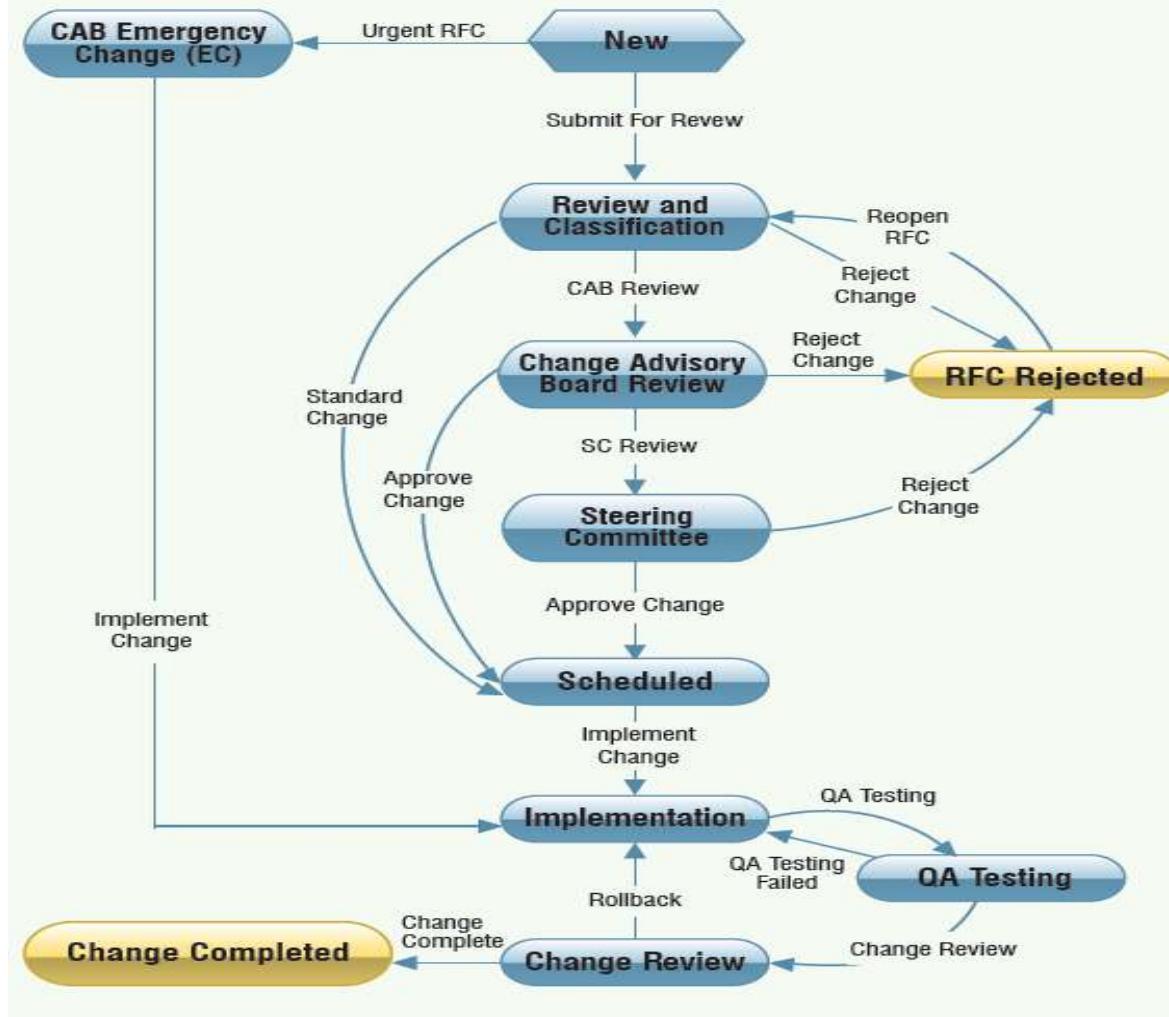


Change request - Is it a Production Bug or Business enhancement Request?

- A change request is a formal proposal for an alteration to some product or system.
- In project management, if any additional changes are required by the client after the requirements are signed off, then these extra changes will also be called as Change request. Such a change may involve an additional feature or customization.
- It can be an attribute or a part of defect life cycle in production. Fixing frequently emerging defects in production to make the system stable.
- One of the more challenging aspects of change management is ensuring that all details of changes are sufficiently documented and all parties are in agreement as to what is expected.
- Change requests can also originate from problem management by RFC
- *Request For Change (RFC)* or, in older terminology, *Change Request (CR)* is a form used to record details of a change request and is sent as an input to Change Management by the Change Requestor

- Change Management defines the processes required to initiate change, analyze impact, authorize change request, develop change and release change into production.
- The Change Management process should be undertaken to make sure that the CR is satisfied efficiently and without unnecessary use of resources and with in required time frame

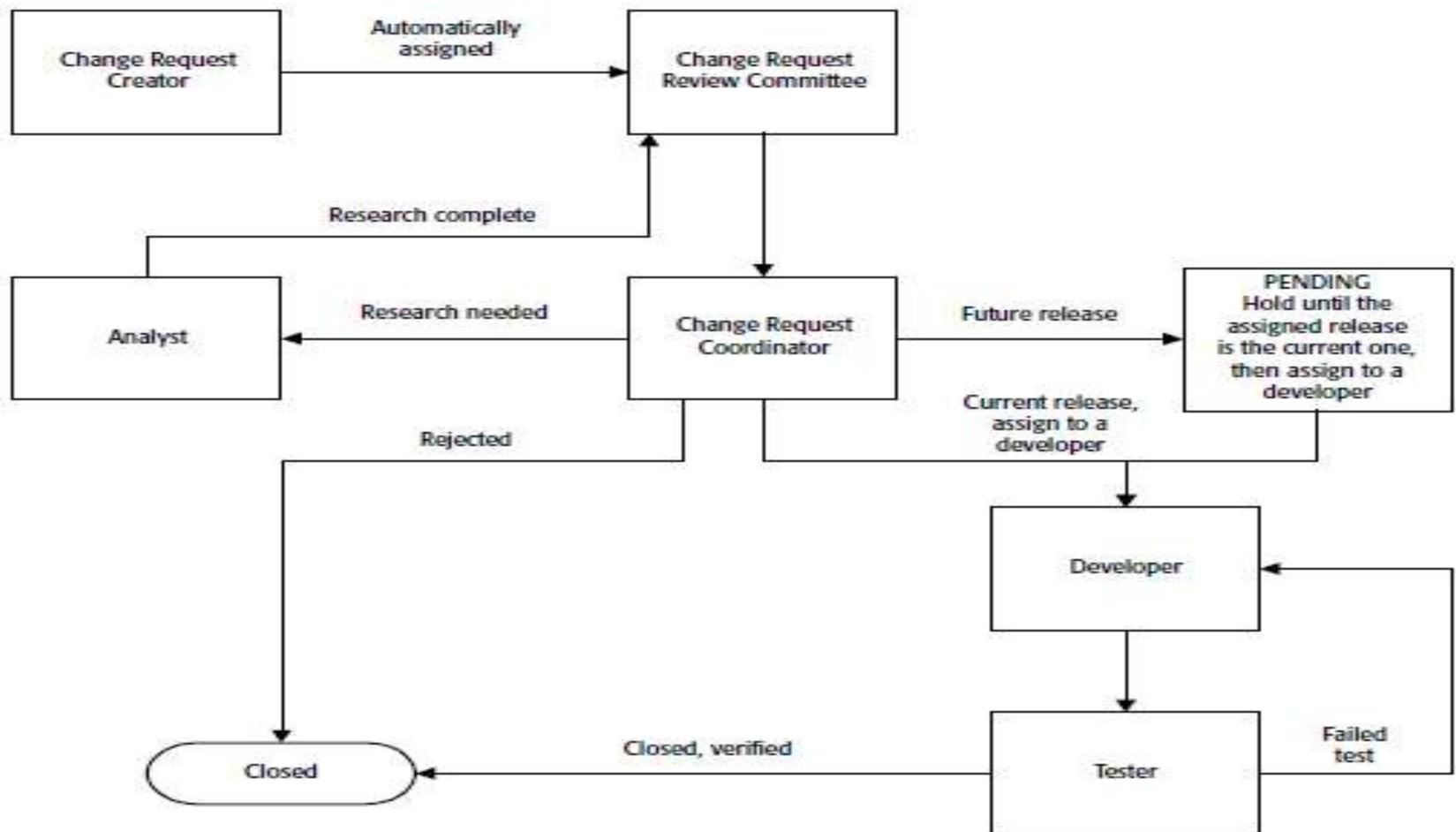
Change Management



- Analyze the Impact of Change request
- Decide whether this can be implemented by your team or other team
- Identify the area of impact
- Document and construct the necessary changes
- Test the changes and review it within the team
- Document the necessary steps to implement the change
- Get all the approvals for implementation
- Implement the changes with Release Management process /version control
- Monitor the production environment for defects
- Close the change request as success



➤ Where do you see each person roles involved in Change request and who authorize the change request?



- Change Request Creator - The person who enters the change request into the system. They are responsible to provide category, severity, Sub-system and priority for the request
- Change Request Review Committee – Responsible to Approve/Reject the Change request. They will determine the action to be taken based on approval or rejection.
- Analyst - assigned to review/research change requests to determine the impact of the requested change. They will recommend if the change should be made in documentation and reviewed.
- Change Request Coordinator – sets priority for the request as determined by the committee. They will investigate the request and assign to a developer based on priority.
- Developer - should only work on change requests. He will plan and implement the changes and then do initial testing. He will add comments and release notes. The changed version will be passed on for testing to the tester by the developer
- Tester - The tester will verify that the change performed as expected with no side effects.



What does Production support mean?



How does it work ?

Production support refers to the practices and disciplines of supporting the IT systems/applications which are currently being used by the end users. A production support person/team is responsible for receiving incidents and requests from end-users, analyzing them and either responding to the end user with a solution or escalating it to the other IT teams responsible for the solution.

- What is their mode of communication during incidents?

The Incidents can be notified to Service board via

- Message Alerts
- Client Email Communication Channel
- Client support Dedicated Phone Services
- Customer provided portal

The Incident will be reported as Ticket by the Service board. These tickets can be handled and tracked by Client provided ticket tracking system.

E.g. Peregrine, Remedy, Managenow and Servicenow.

- **Critical (Severity 1)** - An incident that causes (or has the potential to cause) severe disruption to business operations and/or significant fiscal impact. A product function is not working as documented. There is no workaround or reasonable alternative method available, and the use of the function is immediately critical to the customer's business
- **High (Severity 2)** - An incident that disrupts business operations but which does not cause immediate significant fiscal impact . A product function is not working as documented, but there is a workaround or reasonable alternative method available OR there is NO workaround or reasonable alternative method available and while the use of the function is not immediately critical to the customer's business.
- **Medium (Severity 3)** - A product function is not working as documented. Although the problem has either a minor impact or no impact to the customer's business, the customer has requested that it be fixed.
- **Low (Severity 4)** – A product function is working as documented, but the customer has requested some additional information or changes on the product to be fixed.

- The main things that we need to maintain for any tickets in ticket management tool (are main ticket attributes)
 - Ticket Number/ID
 - Brief Description
 - Severity
 - Log time
 - Response time
 - Restoration time
 - Resolution time
 - Ticket Status
 - Status time
 - Ticket details – Issue reported, solution details and all client & team communications
- Log time refers to the time the ticket or call was logged
- Response time refers to the time when the initial response was given by the production support team
- Restoration time refers to the time when the solution to the problem was found and the work started (If required)
- Resolution time is the time when the problem has been resolved and fixes moved to production
- Status time is the time when status is being collected



What is SLA?

Does it have any importance in production support environment?



- Service Level Agreement is a kind of contractual agreement that outlines business needs to respond and resolve support tickets in a definite time frame

- SLA Breach: If a ticket is not responded/resolved within the defined SLA time limits, it is considered as a SLA Breach
- Service Level Agreement will be attached with penalty clause in almost all the engagements
- “What is Penalty Clause?” : If Cognizant as a vendor and if fails to meet any of the agreed SLA, Cognizant is bound to pay the penalty fees whatever is defined at the Engagement Level Agreement
- The Penalty amount will be adjusted against the monthly/annual invoice, as defined in the Engagement Level Agreement
- Thereby, it is very important to adhere to the SLA timelines which will result in gaining the customer satisfaction too





- What does CR mean?
- What are the activities involved in change request?
- What is problem ticket?
- What is SLA?





- Change Request can be part of defect life cycle in production or changes required by the client
- Do the impact analysis before development
- Implement the change after initial testing
- Production support refers to the practices and disciplines of supporting the IT systems/applications
- Tickets should be responded and resolved within SLA



Links

- http://en.wikipedia.org/wiki/Service-level_agreement
- http://en.wikipedia.org/wiki/Production_support
- <http://www.requirementone.com/Blog/2013/01/24/What-are-change-requests-and-do-you-manage-them>
- <http://www.dummies.com/how-to/content/how-to-manage-project-change-requests.html>

Disclaimer: Parts of the content of this course is based on the materials available from the Web sites and books listed above. The materials that can be accessed from linked sites are not maintained by Cognizant Academy and we are not responsible for the contents thereof. All trademarks, service marks, and trade names in this course are the marks of the respective owner(s).

AVM Service Line

You have successfully completed -
Change Request and Production
Support Ticket Handling

Version Number	Changes made			
V1.0	Initial Version – K. Bharath Kumar			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

AVM SBU Tools

LEVEL – LEARNER





Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview

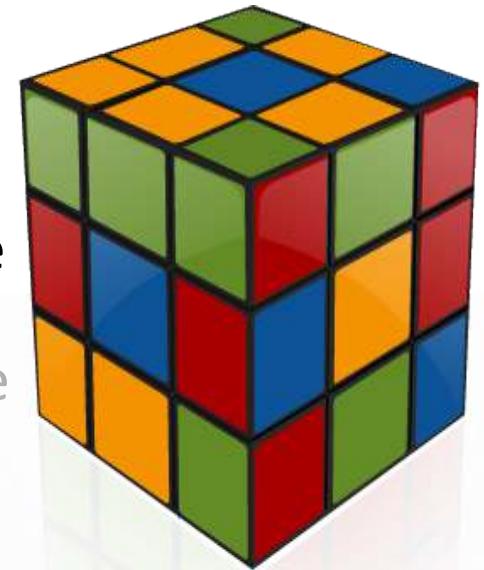


This session will help you in understanding the various Tools available in AVM Landscape, its purpose and how to access these tools.



Objective

- What are tools and benefits of using tools
- List the various tools and enablers in each phase
- List the various tools used in Steady State Phase
- Provide an understanding on the purpose of the tools
- Provide information on how to access the tools
- Provide information on how to install the tools



What are Tools?



“A **tool** is any physical item that can be used to achieve a goal, especially if the item is not consumed in the process. Informally the word is also used to describe a procedure or process with a specific purpose”

“We shape our tools and afterwards our tools shape us.”

– Marshall McLuhan (*Canadian Philosopher*)



Benefits of using Tools in AVM



- Reduces Manual Tasks
- Connects/collaborates people
- Puts forth a Standardized Process for all users across the Globe/Organization
- Helps users with Reports and Dashboards
- Aids in Management, be it Ticket or a Project
- Helps in sharing Knowledge
- Increases Productivity
- Increases Quality

AVM Tools used in different phases

RFI/RFPs

Due Diligence

Contract Agreement

Planning / KA
/ Shadow
Phase

Steady State

One AVM Portal

Estimation Portal

Service DART

SOW Generator
Portal

Knowledge Transition
Portal

Epiplex



ATI - BRI
(available in the
Knowledge Transition
Portal)

OPAT
(available in the
Knowledge Transition
Portal)

ADAPT
(available in the
Knowledge Transition
Portal)

Legend



3rd Party Tools - Available with
Cognizant



Cognizant Tools

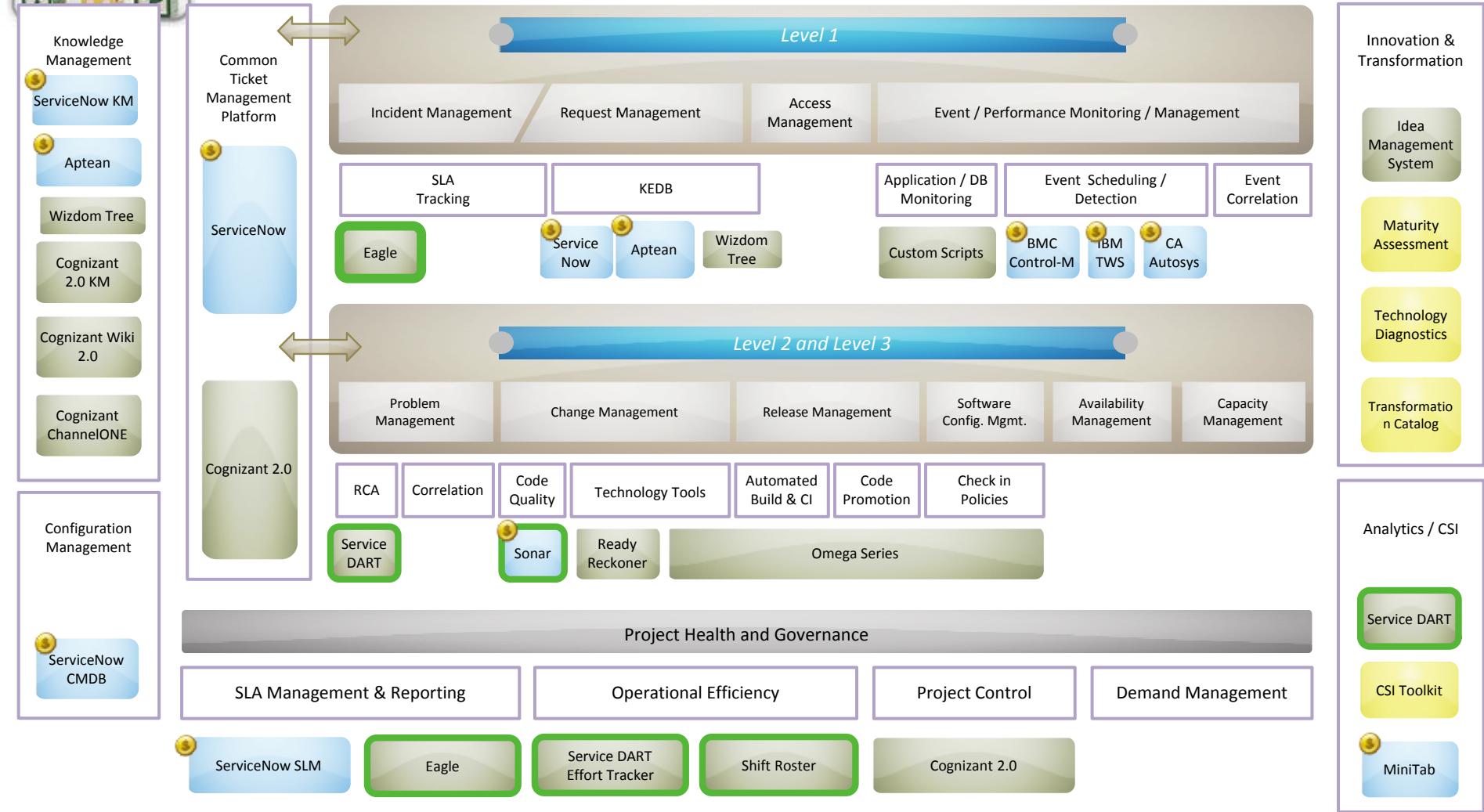


Cognizant Owned
Frameworks

AVM Tools used in Steady State



Cognizant



Innovation & Transformation

Idea Management System

Maturity Assessment

Technology Diagnostics

Transformation Catalog

Analytics / CSI

Service DART

CSI Toolkit

MiniTab

One AVM Portal



A comprehensive collection of collateral and best practices for all phases of an AVM project.

- BD Collateral
 - Write up
 - Case Studies
 - Posters / Brochures
 - Customer FAQs
- Overviews
 - Service Catalog
 - L1 Utility
 - Managed Services
 - Pricing
- AVM Academy Content

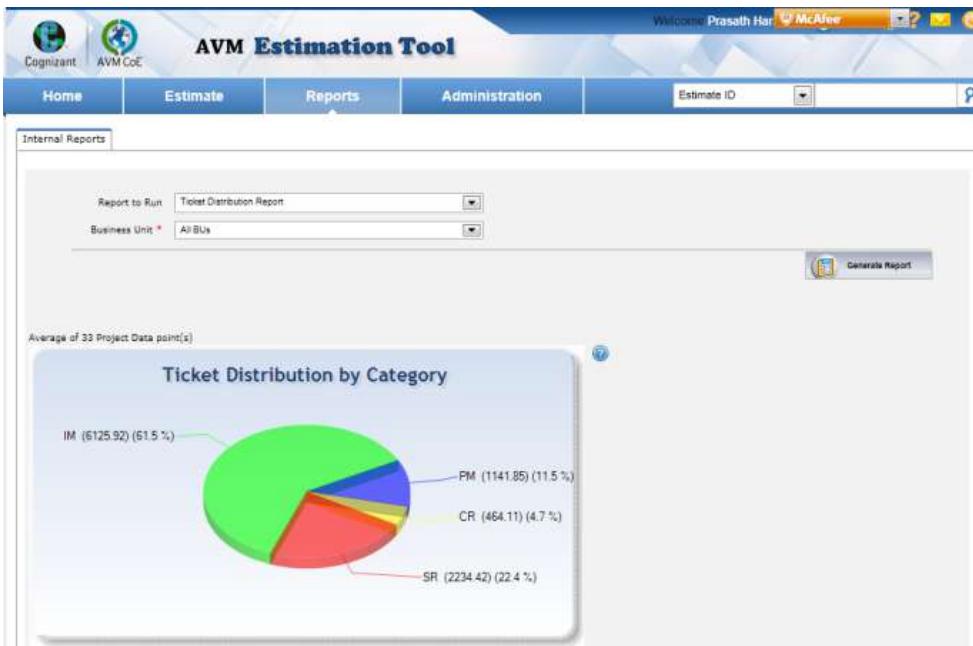
<https://oneavm.cognizant.com/>

Estimation Portal



Implements a customizable and structured estimation model based on historical ticket data (ticket volumetrics)

- Extensively customizable
 - Configurable attributes and impacts
 - Configure based on level of granularity of available data
- Reference data available for effort (for common technologies) and ticket distribution
- Excel import and export



<https://estimation.cognizant.com>

SOW / Contract Generator Portal



Generate standard SOW/Contract template for AVM service line projects - focused on service based delivery offering for various types of services in AVM

The screenshot shows the homepage of the 'Managed Service SOW/Contract Template Generator' portal. The top navigation bar includes links for Home, SOW/Contract Template, StandardTemplates, Reports, Admin Reports, Feedback, and Help. The main content area features a large banner with the text 'SERVICE BASED SOW/CONTRACT TEMPLATE CREATION IS JUST A CLICK AWAY' and three icons: 'Enter Customer Details', 'Select Services', and 'SOW/ Contract Template'. Below the banner, there's an 'Introduction' section with a brief description of the portal's purpose. The 'Service catalog for various service offering' section lists categories like Managed Production Services, Managed Application Services, Professional Services, Governance Services, Product Services, and Security Services. The 'Benefits of Standard SOW Template' section lists several advantages, including standardized structure, clear service definition, well-defined ownership, alignment with ITIL best practices, and multiple delivery models.

- Standardized structure
- Clear and consistent service definition
- Well defined ownership definition across stake holders.
- Services definition aligned with ITIL best practices.
- Choose from multiple models for delivery, risk-reward, etc.

<https://managedservicesow.cognizant.com/>

Knowledge Transition Portal



Customized workflow to address the uniqueness of every transition following Cognizant's ADAPT transition methodology.

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- Aligned to Cognizant's ADAPT Transition Methodology
- Integrated ATI - BRI framework
 - Group applications into waves for maximum benefit / minimum risk
- Uses the OPAT template

<https://knowledgetransitionbeta.cognizant.com/>

Portfolio Analysis



What is Portfolio Analysis?

When planning to take-over application support, the as-is application status is analyzed, by sharing a detailed questionnaire with customer. It will contain factors that would impact transition and regular maintenance.

The response from customer is analyzed in various lines.

Some sample areas of analysis are

- Application complexity
- Shift management
- Support window
- FTE estimate
- Resource fitment & onboarding



Offshorability Portfolio Analysis Tool(OPAT)

- **Offshorability Portfolio Analysis Tool (OPAT)** is filled by application owners.
- The sheet is categorized into 5 major factors which would impact or influence transition planning
- Each factor is assigned a weightage . Sum of weightage should be 100.
- Irrelevant sections can be removed and weightage has to be adjusted accordingly.
- Based on availability of data, OPAT sheet calculates the Maturity Index of an application. Higher score indicates the application is stable.
- Refer embedded OPAT sheet 

Factors	Weightage %	Sample Inferences/Decisions
Application Complexity Factor	30	Right Skilled Resource
SLA Criticality Factor	30	Application Criticality
Application Volatility Factor	25	Resource Loading E.g. Based on no. of bugs.
Third Party Product Factor	5	Production support protocol with Vendor E.g.) Coordination with Vendor directly (or) through client.
Documentation and Training	10	Transition Timelines



OPAT - Uses

Offshorability Portfolio Analysis Tool (OPAT) is used for

- Arriving at optimal resource model including onsite/offshore
- Finalizing transition approach
- Planning knowledge transition timelines (medium/large scale)
- Creating project schedule

Shift Roster



Proactive planning tool, for creating and managing resourcing for shift based projects.

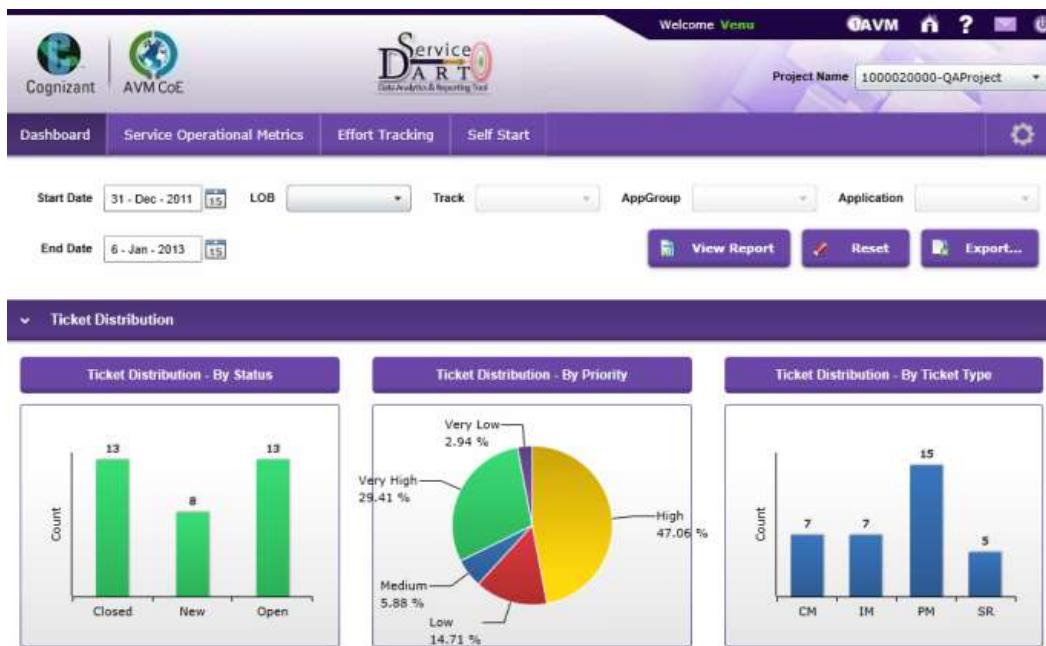
- Cyclic shift roster generation
- Supports up to 7 sub-teams per project (and 4+ shifts)
- Allows configuring and tracking of shift allowances
- Generate cab roster

<http://itisscheduler.cognizant.com/>

Service DART



Comprehensive data analytics and reporting tool that analyzes ticket information. Integrated with workflow based effort tracking.



- Dashboard with trends and distribution
- Integrated with workflow based effort tracking for ESA projects
- Provision for One-Time Data Analysis for RFIs / RFPs
- RCA Enablers
 - Pareto Analysis
 - Textual Analysis

<https://servicedart.cognizant.com/>

Eagle



Real time dashboard with a ticker that shows metrics (including influx and back-log) for production support projects.



- Dashboard (suited for production floor)
- Mini Board feature for leads
- Ticketboard showing tickets by priority
- Customizable SLA calculation

Available in RAMS / Phoenix

License Source:	Cognizant In-house	Profile Type	Application
Manufacturer:	Cognizant		
Software Name:	Eagle		

Sonar



Static code analyzer tool that facilitates continuous analysis of the code base to identify areas of focus / improvement.



- Static code analysis with customizable rules
- Progressive tracking
- SQALE Dashboard
- Supports Java, COBOL, C#.NET, VB.NET, SQL, etc.
- Common GTO instance (CCAP) is free for Cognizant

<http://ccap.cognizant.com/>

Available in RAMS / Phoenix

License Source:	Free Ware	Profile Type	Application
Manufacturer:	SonarSource	Version:	
Software Name:	SonarSource Enterprise Edition	Bit:	32



Ready Reckoner

For the mainframe platform - hosts home grown utilities as well as 3rd party toolsets that help improve productivity and quality

The screenshot shows the 'Impact Analysis' tool within the Ready Reckoner application. The top navigation bar includes links for Home, About, Services, Free Tools, Sponsored Dev, Tools, News, Feedback, and Logout. A banner at the top right reads 'Stop-Shop For Mainframe Users'. Below the banner, a sub-navigation menu lists Test Name, Impact Analysis, -Color, Tool Description, Impact Analysis, Color, and Download to PDF. The main content area has a sidebar on the left with 'Category' and 'Language Processing' selected. The central panel displays the 'Impact Analysis' tool's interface, which includes sections for 'Description', 'Tool Details', 'How To Use', and 'Download Source Code'. The 'How To Use' section contains a 'How To Use' link and a note about reading the user guide for more details.

<https://readyreckoner.cognizant.com/>

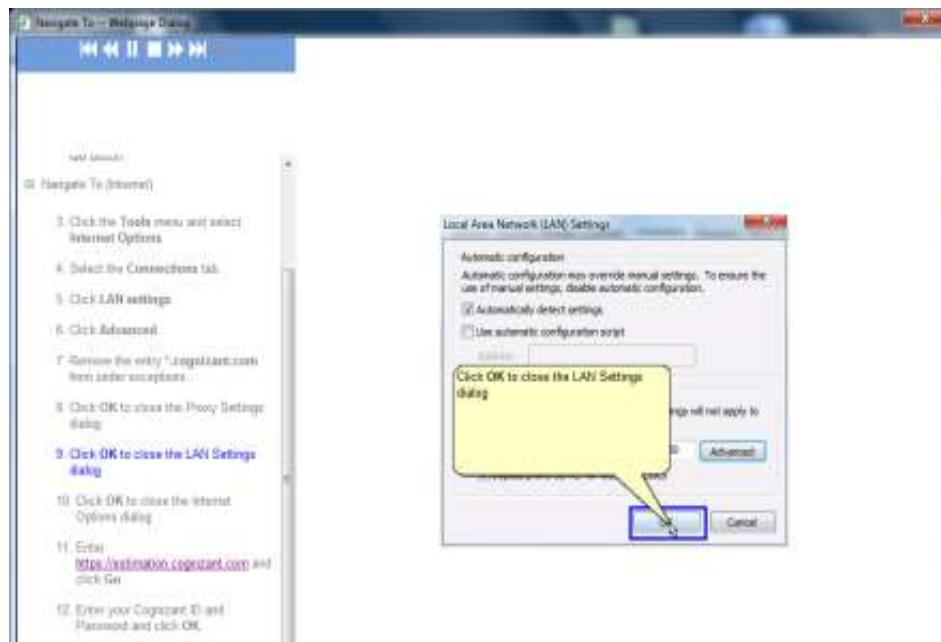
Ready Reckoner acts as a complete mainframe guide as it comes with

- 70+ home grown reusable REXX utilities. 150+ code samples in Cobol/SAS/JCL/IMS is available under Samples tab.
 - Possible root cause and resolution for ABENDs/error codes in COBOL, CICS, IDMS, IMS, REXX etc. are available under Error Codes Tab.
 - Exhaustive FAQs covering COBOL, VSAM, JCL, DB2, CICS are available.
 - Documents and installation guide to set Relativity for mainframes is available under tools tab.
 - Users are encouraged to share their thoughts using feedback tab.

Epiplex



Business process capture tool that enables recording of user interactions on any application.



- Supports post record edits
- Multiple output formats
- Auto generate knowledge evaluations
- Multi language support

Available in RAMS / Phoenix request

License Source:	Cognizant Owned	Profile Type	Application
Manufacturer:	Epiance		
Software Name:	Epiplex500		

Codenizant



Enables delivery of top quality code by following a set of core engineering practices (CEP 10), Design practices (DP5) and tools.

The screenshot shows the homepage of the Codenizant Program. The title bar reads "Codenizant Program" and "Mission: Achieving customer delight through Direct, Affordable, Secure and Efficient Code - the first time and every time". The main content area features a large circular diagram with concentric rings. The outer ring is dark grey with the text "ONE CODENIZANT" in white. The middle ring is yellow with "CODENIZANT DESIGN" and "PRACTICES" in black. The innermost ring is red with "CODENIZANT OMEGA" and "CEP-10 Core Engineering Practices" in white. To the left of the diagram is a sidebar with links for "One Codenizant", "Codenizant Design", "Codenizant Omega", "What is Codenizant Omega?", "FAQ", "Codenizant Services", "Practice Contacts", "Academy Training", "Calendar", "Discussions", "Newsletter", "Ch1 Blog", "Community", "Register YOUR Training Needs", and "Case Study".

- Codenizant Design and Codenizant Omega
- Omega frameworks for .NET, Java, Mainframe, AS400, Sharepoint
- Design frameworks for .NET and Java

<https://gto.cognizant.com/Codenizant/SitePages/Home.aspx>

Ticket Tracker



What is a ticket?

Whenever a member/user/customer reports a technical problem (i.e. a problem with their computer hardware or software), it's recorded as a "ticket." A ticket can be adhoc request or planned task or even a defect.

Ticketing Tool : Features

- **Ticket Status** – A ticket can be in New, In Progress, On-Hold(no user has ticket as action item), Cancelled, Completed(issue resolved by assignee), Closed(User satisfied with resolution), Re-Open (User is not satisfied with resolution status).
- **Ticket Tracking** – This involves updates to ticket parameters like priority, assignee, description.
- **SLA Monitoring** - This involves monitoring, whether service level agreements are met. This is usually achieved by setting SLA Indicator(SLA met/not met) on tool, based on the SLA clock.
- **Effort Capture** – An optional feature, where user can enter effort spent. Effort spent on a ticket includes the effort from the assigner, assignee and various stake holders of the ticket.
- **Status Reporting** – Ticketing tool comes with export to excel option and dashboard (ticket status report, assigned group, application, SLA, priority are top 5 among them).

Ticket Tracking Tools



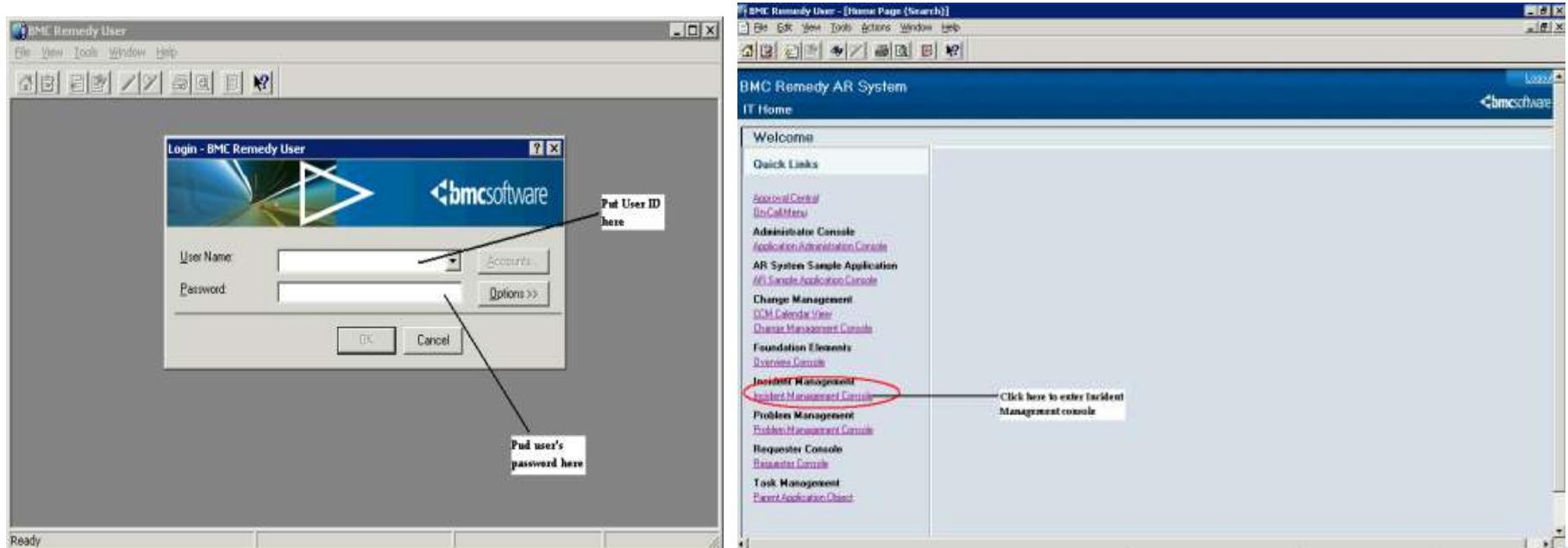
Some of the ticket tracking tools are listed below

- CA Unicenter ServicePlus Service Desk
- FrontRange HEAT
- HP OpenView Service Desk
- Peregrine ServiceCenter
- Remedy IT Service Management
- Service Now

Remedy

- Remedy is a stand alone ticketing tool with the following key features:

- » Distinct, yet fully integrated, ITIL based incident and problem management applications
- » Single, purpose built CMDB allowing for business awareness of service desk functions
- » Powerful, proven workflow engine enabling automation of service desk processes
- » Seamless integration with other service management solutions (change, asset, service level, service request, identity, knowledge)
- » Simplified interfaces for rapid incident and problem creation and closure
- » Multi-tenant architecture supporting service desk consolidation for global enterprises
- » Built-in process flow taskbar and interactive process model based on ITIL



ServiceNow



- ServiceNow (<http://www.service-now.com>) is an On Demand IT service and asset management solution
- Offered as a hosted service and licensed on a subscription basis
- Built on a dynamic CMDB and based on the industry standard best practices of ITIL
- Provides integrated processes for incident, problem, change, configuration and asset management
- Service extensions are available for employee self service, knowledge management, service catalogue, service level agreement management and business analytics
- Build-in reporting, notifications, escalations, integration, graphical mapping, workflows. etc..

servicenow® IT Service Management Suite

Welcome ITIL User

Incidents > New Search for test

All > Active = true > Assigned to = ITIL User

Number	Caller	Short description	Category	Priority	Due
INC0000048	Luke Wilson	Hanging problems with performance on the Sales Tools	Inquiry / Help	2 - High	N/A
INC0000051	Joe Employee	User can't access SAP Controlling application	Software	1 - Critical	N/A
INC0000054	Christen Mitchell	There seems to be some slowness or an out to SAP Materials Management	Software	1 - Critical	N/A
INC0000055	Carol Coughlin	SAP Sales app is not accessible	Software	1 - Critical	N/A
INC0000044	Joe Employee	Can't log into SAP	Inquiry / Help	4 - Low	N/A
INC0000041	Blow Ruggen	My cubical phone does not work	Inquiry / Help	4 - Low	N/A
INC0000014	Blow Ruggen	missing my home directory	Hardware	4 - Low	N/A
INC0000016	Blow Ruggen	Rain is leaking on main DNS Server	Software	4 - Low	N/A
INC0000019	Taylor Vredland	Sales forecast spreadsheet is READ ONLY	Hardware	1 - Critical	N/A
INC0000020		Request for a Blackberry	Inquiry / Help	4 - Low	N/A
INC0000025	Dan Goodfellow	I need more memory	Software	4 - Low	N/A
INC0000027	Fred Ladley	please remove this botlink	Software	2 - High	N/A
INC0000040	Bud Richman	JavaScript error	Inquiry / Help	3 - Moderate	N/A

Add to list | Add to history | Remove from history

<http://demo.service-now.com> (External link)

- Based on ITIL and built on a CMDB
- Easy to use, easy to tailor and easy to maintain
- Implemented in days
- A hosted model free from maintenance fees and software to install and manage
- Licensed on a subscription basis
- Automatically upgraded by the vendor
- Enterprise class functionality at a fraction of the cost of legacy client server applications

Cognizant Service Now

Service Desk

- Application Monitoring
- Mailbox Monitoring
- Batch Monitoring
- Batch scheduling

- Functional Enhancement
- Compliance & Regulatory updates
- Release Management

End User portal

Portfolio Management

Asset Management

Scrum based delivery

Knowledge Management

Service Level Management

CMDB

Reporting

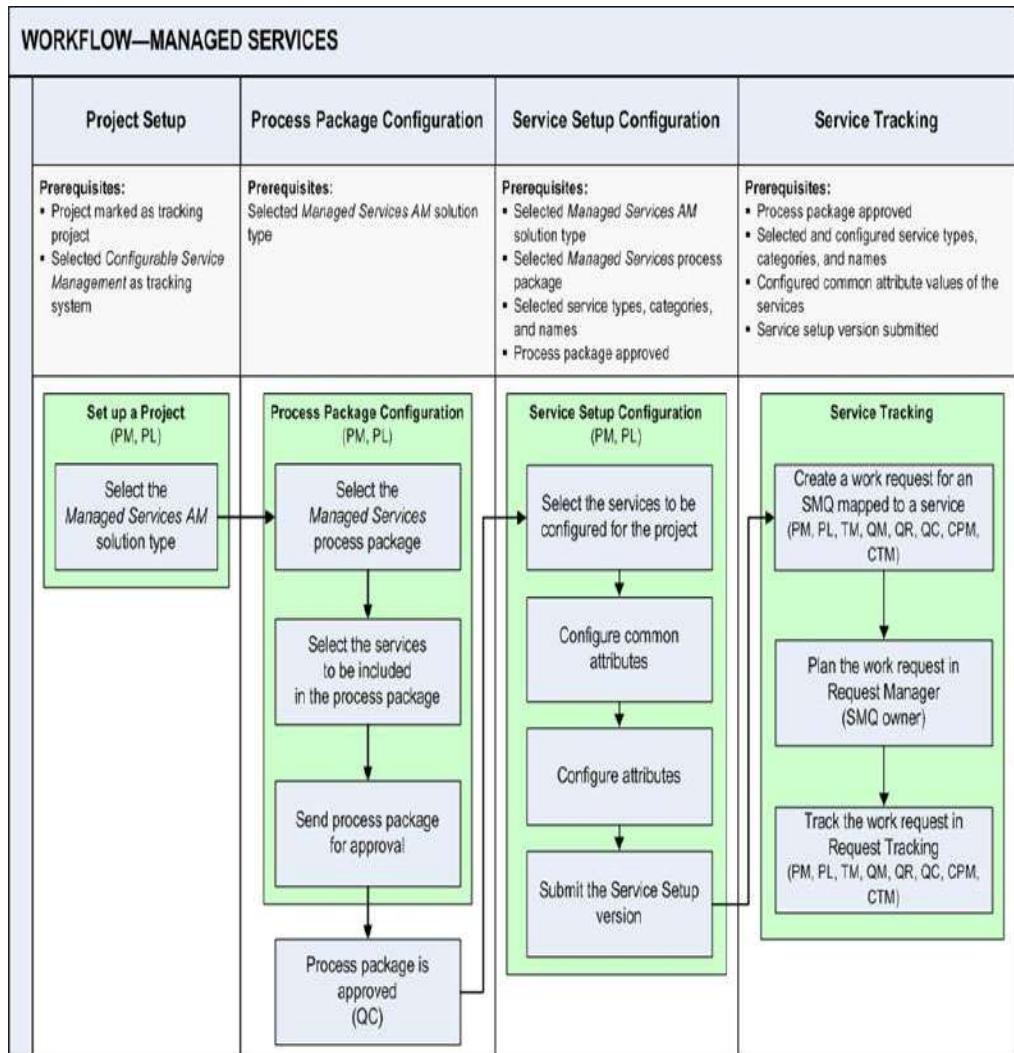
Analytics

C2.0



- Cognizant's in-house tool for project management practice that can be used for tracking Cognizant projects
- Features
 - Home
 - Processes
 - Projects
 - Work
 - Reports
 - Governance
 - Documents
 - Discussions
- Managed Services Process Frame Work is aligned to service catalogue
- Integrated processes for incident, problem, change, etc.
- Build-in templates, guidelines, checklist, dashboard, reporting, workflows etc.

<https://cognizant20.cognizant.com>



Wizdom Tree



- Wizdom Tree is a knowledge management system specifically engineered for support environments allowing structured knowledge to be captured, processed and reused. It helps the support personnel to resolve problems better and faster.
- The users of Wizdom Tree will be Tier I, Tier II, Tier III support personnel and their managers who may be located multi-site and / or working in multiple shifts.

wizdomtree
AN EXPERIENCE MANAGEMENT SYSTEM
Version 2.0

Cognizant
Passion for making a difference

Welcome : Nidhi
Logged as : Admin
Log off

HOME | KNOWLEDGE MANAGEMENT ▶ | WORKLIST ▶ | SYSTEM MANAGEMENT ▶ | AUDIT TRAIL ▶ | DICTIONARY POPULATION ▶ | My Profile | About Us | Help | Feedback

Monday, Sept 10, 2007

Home > Search

| Search

Select collection

Select the field for searching:

Enter your search query:

| Search preferences

Please select no. of links per page

Open each solution in a different window

About Wizdom Tree

Wizdom Tree is an Experience Management System for Application Value Management (AVM) projects meant to provide support groups working in AVM with a means to manage, capture, process and search the knowledge that is relevant to their work. The intended users of Wizdom Tree are Tier I, Tier II, Tier III support personnel as well as their managers who may be located at multiple sites and / or working in multiple shifts.

Site Updates

- Searches in last 24 Hrs - 0
- Total Searches - 0
- Total Collections - 3
- Total Documents - 263
- Un-Indexed Documents - 263

Recently accessed articles

Most accessed articles

My recently accessed articles

My most accessed articles

Since my last login

- You last accessed this site on **10-Sep-2007 09:25 IST**
- Status of your Approval Worklist :
 - Pending - 1
 - Completed - 1
- Status of the Articles posted by you :
 - Pending - 1
 - Completed - 0
 - Published - 71
 - Approved and need to be published - 0

Questions





Check Your Understanding



1. User A is unable to locate an option of 'Create portfolio' in the webpage. User A has logged a ticket with priority 1. SLA for priority 1 ticket is 3 hours. Assignee analyses the issue and understands that the option is unavailable since user A does not have the necessary access. Even if the access rights is changed for user A, the changes will be effective the next day following a batch run. What can the assignee do in order to avoid SLA miss, from a process perspective?

2. You have come across a new abend and your SLA clock is ticking. Which tool will you refer ?

3. You have developed a new utility for your project. How do you share with rest of the organization?

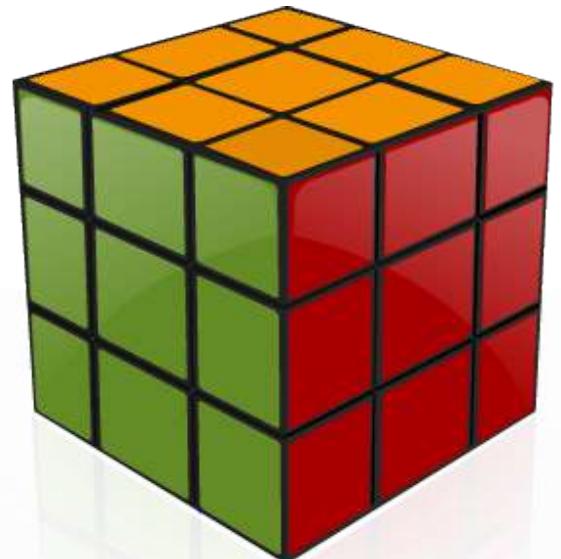
4. When to use Ready Reckoner ?





Summary

- Centra recording
 - <https://de206.sabameeting.com:443/GP/main/000001871a690000013a9ba5a052d63a>
- Service now demo (video) - <https://cognizant.kpoint.com/playlist/view/246>
- Consolidated list of URLs
 - <https://oneavm.cognizant.com/>
 - <https://estimation.cognizant.com>
 - <https://managedservicesow.cognizant.com>
 - <https://knowledgetransitionbeta.cognizant.com>
 - <http://itisscheduler.cognizant.com>
 - <https://servicedart.cognizant.com/>
 - <http://ccap.cognizant.com/>
 - <https://readyreckoner.cognizant.com/>
 - <https://gto.cognizant.com/Codenizant/SitePages/Home.aspx>
 - <http://demo.service-now.com> (External link)



AVM Service Line

You have successfully completed -
AVM Tools



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

AVM Metrics

LEVEL – LEARNER





Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



This session is for the Entry Level Trainees to help them understand the Overview of Metrics in AVM and its significance



Objective

What is a Metric?

What is typically measured in AVM Projects?

What are Benchmarks?

Metrics Process - Plan, Collection, Reporting, Analysis

What is KPI?

Key KPIs in AVM

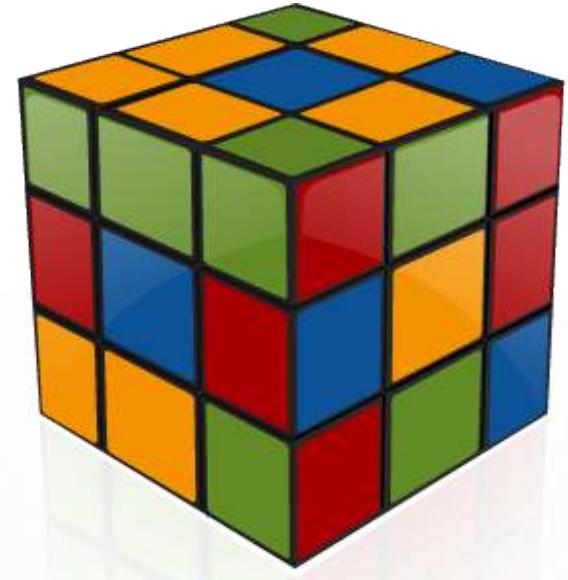
Need for Metrics and benefits in AVM

Key Metrics in AVM

List of Metrics in various Services

Metrics Flow in Cognizant 2.0

Service DART – Metrics Generation





Metrics

How does one know if a program/process is heading towards Success/Failure?

How would you even know if a program/process is working WELL or NOT?

THE ANSWER IS “METRICS”

SUCCESS



***There goes a saying “Anything that is not measured cannot be controlled” So
MEASURE.CONTROL.SUCCEED***

What is our role in Metrics?



Metrics

Metrics refers to a system that is used to evaluate an entity – Process, Performance or Progress quantitatively

It specifies a set of Parameters that will be measured, procedures to measure them and ways to interpret the measurements

What is typically measured in AVM Projects?



Batch Monitoring

- ❖ % Jobs completed with in Target time
- ❖ % Events automatically resolved by monitoring tool
- ❖ % Reduction in batch window
- ❖ % Application for which monitoring is automated
- ❖ % Batch job abend
- ❖ % Reduction of manual intervention (during batch run)

Incident Resolution (Unknown)

- ❖ % Closed Tickets Met SLA - Acknowledgement
- ❖ % Closed Tickets Met SLA - Response
- ❖ % Closed Tickets within Resolution SLA
- ❖ % Improvement in MTTR
- ❖ % of Tickets Reopened
- ❖ Tickets backlog %
- ❖ % Service request standardized
- ❖ Alert to incident percentage

Known Error Resolution and Standard Service Request Fulfillment

- ❖ % Self Help Conversion rate
- ❖ % of KEDB solutions usage effectiveness
- ❖ Average Age
- ❖ Ticket Productivity
- ❖ Tickets backlog %



What are Benchmarks?

Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other industries and setting up a target level for each of the metrics known as Benchmarks.

In Cognizant, Benchmarks have been derived from our past performances and are Practice Level Benchmarks (PLBM) or Organization Level Benchmarks (OLBM) and they are available in Cognizant 2.0 Portal.

Benchmarks have three defined levels –

Upper Control Limit (UCL)

Goal

Lower Control Limit (LCL)

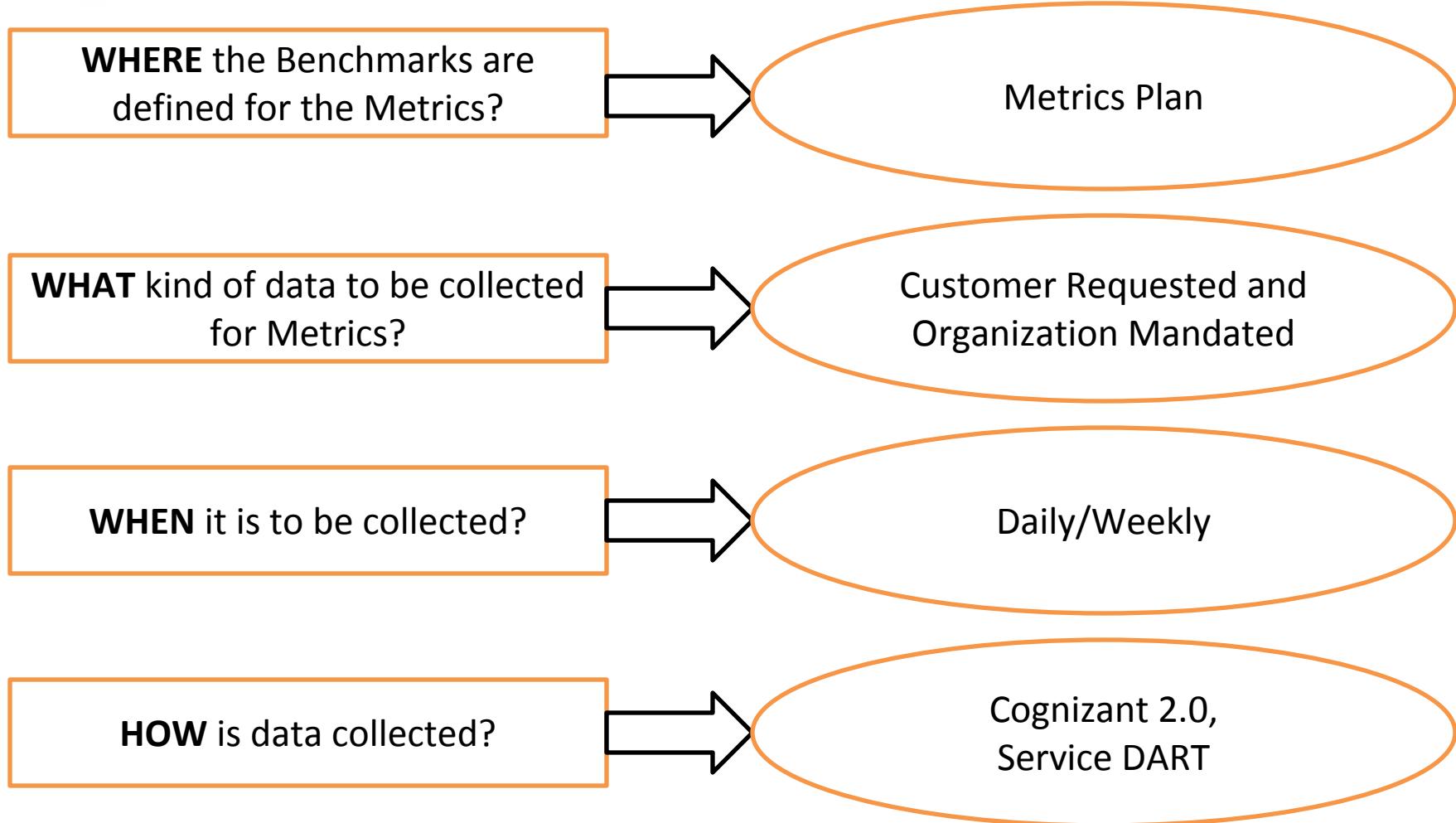
For e.g. "%Closed Tickets Met SLA – Acknowledgment" Metrics has 96% - LCL, 99% - Goal and 100% - UCL as the OLM Benchmarks in Cognizant2.0

Metrics Program

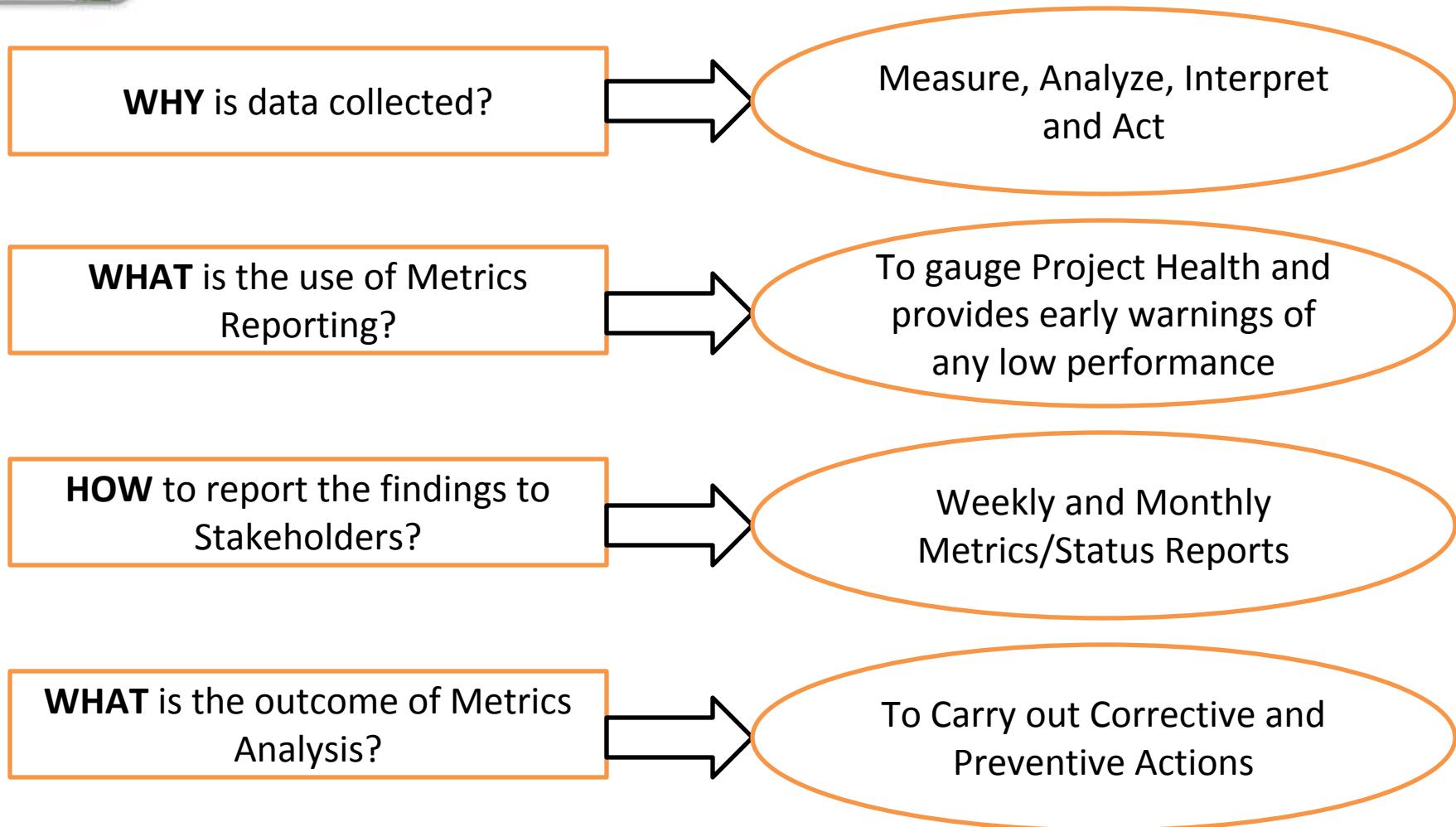


- **Metrics Program involves Metrics Planning, Data Collection, Metrics Reporting and Metrics Analysis**
- Metrics Planning
 - Metrics Planning is the first stage in the Metrics Program where the list of Metrics, that have to be tracked and reported as per Project Scope, are chosen and clearly defined.
 - All Metrics that have to tracked as per the project scope are added in Metrics Plan.
 - OLBM/PLBM are added to the Metrics in the Metrics Plan.
 - Metrics Plan is created, reviewed and approved in Cognizant 2.0.
- Data Collection
 - Data required for the metrics is usually collected on a daily/weekly basis
 - Data collection can happen thru Portals like Cognizant 2.0 or Service DART
 - Data Dump from Ticketing Tools also serve as input data for Metrics
- Metrics Reporting
 - Metrics Reporting presents all calculated Metrics and helps in gauging the overall Project Health
 - Metrics Reporting happens through Daily/Weekly/Monthly Status Reports, Metrics Reports and Dashboards prepared in Excel/Word/Power point Formats.
 - Metrics Reporting also happens through Portals like Cognizant 2.0, Service DART
- Metrics Analysis
 - Metrics Analysis helps in knowing the weak areas in the Project and paves way for taking Corrective Actions and Preventive Actions (CAPA)
 - Cognizant 2.0 has inbuilt Metrics Analysis feature, which clearly indicates if each of the Metrics value is within the OLBM/PLBM Control Limits
 - For Metrics outside the Control Limits, Reason for the deviation and CAPA can be provided

Metrics Program



Metrics Program (Contd.)





What is KPI

- **Key Performance Indicators (KPI):**

A Metric that is used to help manage a Process, IT Service or Activity. Many Metrics may be measured, but only the most important of these are defined as KPIs and are used to actively manage and report on the Process, IT Service or Activity. KPIs should be selected to ensure that Efficiency, Effectiveness, and Cost Effectiveness are all managed.

- KPI is key as it is of fundamental importance in either a competitive advantage or is a make/break component
- Relating to Performance when it can be measured, quantified and influenced by the organization
- An indicator as it provides leading information on future performance

Key KPIs in AVM

- KPIs would vary from project to project based on the scope of the project and services delivered. In general, below KPIs are key in AVM:

- Acknowledgement Time
- Resolution Time
- Turn Around Time
- Batch Cycle Time
- First Time Right
- Productivity
- Cost of Quality
- Customer Satisfaction
- Application Availability
- Effort Variation
- Schedule Variation
- Defect Density

Need for Metrics and Benefits in AVM

- Metrics are derived measures and gives quantitative evaluation of activities
- In AVM, Metrics serve as Indicators of Performance
 - Are we delivering as per agreed upon terms with Customer? (SLA)
 - Are we delivering good quality? (Defect related)
 - Are we improving from time to time? (Trend Analysis)
 - Are we good at Overall Planning? (Effort and Schedule related)
- If we can measure the above, then we can set goals to achieve and be confident that we are progressing in the right direction



Key Metrics in AVM



Tickets Met Response SLA = (No of tickets that met Response SLA / Total Number of tickets having SLA mapping) * 100

Tickets backlog % = [(Number of open tickets till the reporting period) / (Number of tickets Carry forwarded + Number of new tickets received in the reporting period)] * 100

% of Tickets Reopened = (Number of tickets reopened / Number of closed tickets) for the reporting period * 100

Batch job abend % = (Number of abended batch jobs / Number of jobs) for the reporting period * 100

% First Level Resolution Rate = (Number of tickets solved by L1 team / Number of closed tickets) for the reporting period*100

% Improvement in MTTR (Mean Time to Resolve) = ((Baseline MTTR - Current MTTR)/Baseline MTTR) for the reporting period*100

% of KEDB solutions usage effectiveness = ((Number of KEDB articles - Number of KEDB not used) / Number of KEDB articles) till the reporting period*100

Please refer to Cognizant 2.0 ([Managed services Metrics List with Definitions.xls](#)) for the complete list of Metrics and the formula for each of these Metrics.

List of Metrics in Managed Production Services



Ad-hoc Service Request Fulfillment	Standard Service Request Fulfillment	Incident Resolution (Unknown)	Known Error Resolution
<ul style="list-style-type: none"> ❖ % Closed Tickets Met SLA - Acknowledgement ❖ % Closed Tickets Met SLA - Response ❖ % Closed Tickets resolved within Resolution SLA ❖ % of Tickets Reopened ❖ % Ongoing Tickets Met SLA – Acknowledgement ❖ % Ongoing Tickets Met SLA – Response ❖ % Ongoing Tickets resolved within Resolution SLA ❖ % Service request standardized (KEDB added) ❖ Average Age ❖ Offshore resolution rate ❖ Onsite resolution rate ❖ Ticket Productivity ❖ Tickets backlog % 	<ul style="list-style-type: none"> ❖ % Closed Tickets Met SLA - Acknowledgement ❖ % Closed Tickets Met SLA - Response ❖ % Closed Tickets resolved within Resolution SLA ❖ % Conversion rate (KEDB to Self help) ❖ % of KEDB solutions usage effectiveness ❖ % of Tickets Reopened ❖ % Ongoing Tickets Met SLA – Acknowledgement ❖ % Ongoing Tickets Met SLA - Response ❖ % Ongoing Tickets resolved within Resolution SLA ❖ Average Age ❖ First level resolution rate ❖ Offshore resolution rate ❖ Onsite resolution rate ❖ Ticket Productivity ❖ Tickets backlog % 	<ul style="list-style-type: none"> ❖ % Closed Tickets Met SLA - Acknowledgement ❖ % Closed Tickets Met SLA - Response ❖ % Closed Tickets within Resolution SLA ❖ % Improvement in MTTR ❖ % of Tickets Reopened ❖ Ticket Productivity ❖ Tickets backlog % ❖ % Ongoing Tickets Met SLA –Acknowledgement ❖ % Ongoing Tickets Met SLA - Response ❖ % Ongoing Tickets within Resolution SLA ❖ % Service request standardized ❖ Alert to incident percentage ❖ Average Age ❖ First level resolution rate ❖ Offshore resolution rate, Onsite resolution rate 	<ul style="list-style-type: none"> ❖ % Closed Tickets Met SLA - Acknowledgement ❖ % Closed Tickets Met SLA - Response ❖ % Closed Tickets within Resolution SLA ❖ % Self Help Conversion rate ❖ % Improvement in MTTR ❖ % of KEDB solutions usage effectiveness ❖ % of Tickets Reopened ❖ % Ongoing Tickets Met SLA - Acknowledgement ❖ % Ongoing Tickets Met SLA - Response ❖ % Ongoing Tickets within Resolution SLA ❖ Alert to incident percentage ❖ Average Age ❖ First level resolution rate ❖ Offshore resolution rate ❖ Onsite resolution rate ❖ Ticket Productivity ❖ Tickets backlog %

List of Metrics in Managed Production Service (Contd.)

Major Incident and Mediator Support	End of Term	Application Problem Management	Operational Change Management
<ul style="list-style-type: none"> ❖ % Communication timelines adhered during outages (stage wise adherence) ❖ % OLA's established between service providers ❖ % downtime overrun 	<ul style="list-style-type: none"> ❖ Productivity (Effort / Ticket) ❖ % Applications for which Production-like or Mock environment is available ❖ % of mock-production verifications completed against planned ❖ Number of issues resulting from end of term jobs ❖ % jobs completed within Target Time ❖ Reduced batch window during month end, quarter & year end 	<ul style="list-style-type: none"> ❖ Average Age ❖ % KEDB solutions added for proactive problems ❖ Productivity (Effort / Ticket) ❖ Tickets Backlog % ❖ % of Tickets Reopened ❖ % of Proactive Problems Raised ❖ % Proactive Problems Resolved ❖ % RCA completed ❖ % of Proactive Problems Raised ❖ % Proactive Problems Resolved ❖ % Closed Tickets resolved within Resolution SLA ❖ % Ongoing Tickets resolved within Resolution SLA 	<ul style="list-style-type: none"> ❖ % Changes failed & rolled back ❖ % Closed Tickets resolved within Resolution SLA ❖ % Emergency Tickets ❖ % KEDB removed by enriching application ❖ % of Tickets Reopened ❖ % Ongoing Tickets resolved within Resolution SLA ❖ Average Age ❖ Defect Density by Effort ❖ Ticket Productivity ❖ Tickets backlog %
<h3>Batch Monitoring</h3> <ul style="list-style-type: none"> ❖ % Jobs completed within Target time ❖ % Events automatically resolved by monitoring tool ❖ % Reduction in batch window ❖ % Application for which monitoring is automated ❖ % Batch job abend ❖ % Reduction of manual intervention (during batch run) 	<h3>Batch Scheduling and Execution</h3> <ul style="list-style-type: none"> ❖ Percentage of manual jobs triggered / run ❖ % Batch job abend ❖ Reduction in batch window ❖ % Reduction of manual intervention (during batch run) 	<h3>Application Monitoring</h3> <ul style="list-style-type: none"> ❖ % Jobs completed within Target Time ❖ % Events automatically resolved by monitoring tool 	<h3>Release Acceptance</h3> <ul style="list-style-type: none"> ❖ % emergency changes ❖ % Changes failed & rolled back ❖ % Releases automatically deployed ❖ Productivity (Effort / Ticket)
<h3>Mail Box and Ticketing Tool Monitoring</h3> <ul style="list-style-type: none"> ❖ % Met SLA - Response / Acknowledgement ❖ % Auto assigned tickets (to the right queue) ❖ % of mailbox events routed through SM tool ❖ Ticket routing accuracy 			

List of Metrics in Managed Application Services



Functional Enhancement

% Core Effort
 % Effort reduction from reusable components
 % Emergency Tickets
 % Improvement in Maintainability
 % of regression test cases added
 % of successful handovers to Production Support
 % Reduction in Cost Of Ownership
 % Rework Effort
 % Tickets rolled back after deployment
 Appraisal Cost of Quality %
 Average Effort Variation %
 Average Schedule variation %
 Code Review Coverage
 Cycle time reduction for new releases
 Defect Density by Effort
 Defect Removal Efficiency
 Delivered Defect Density by effort
 Delivered Defect Density by size
 Failure Cost of Quality %
 Overall Cost of Quality %
 Post production defect density by Effort
 Post production defect density by Size
 Prevention Cost of Quality %
 Productivity
 Requirements Stability by effort (RSI)
 Size Variation %
 Tickets backlog %
 Application Strengthening (ticket volume) (reporting period)
 Unit Test Coverage

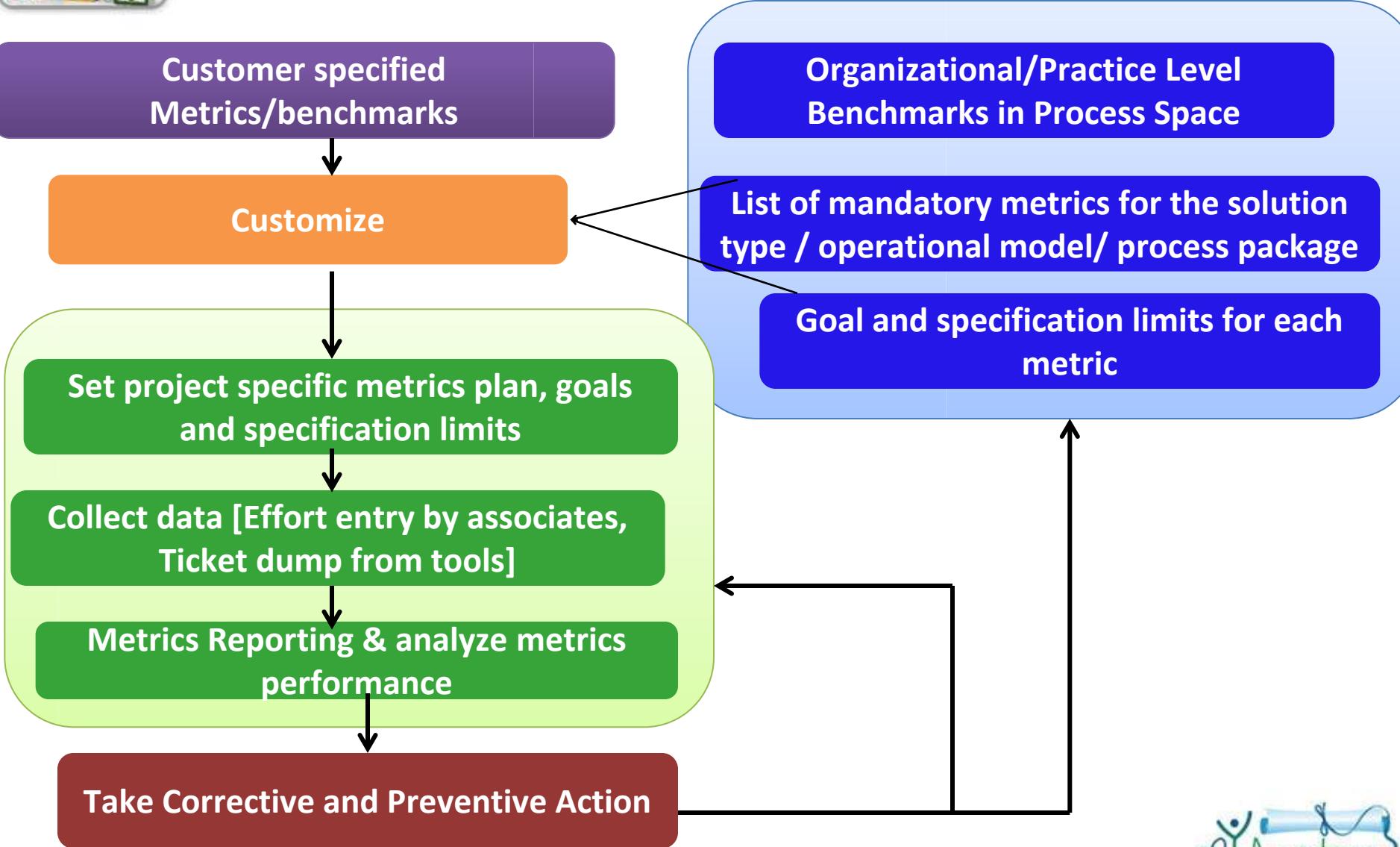
Application Strengthening

% Core Effort
 % Effort reduction from reusable components
 % Emergency Tickets
 % Improvement in Maintainability
 % of regression test cases added
 % of successful handovers to Production Support
 % Reduction in Cost Of Ownership
 % Rework Effort
 % Tickets rolled back after deployment
 Appraisal Cost of Quality %
 Average Effort Variation %
 Average Schedule variation %
 Code Review Coverage
 Cycle time reduction for new releases
 Defect Density by Effort
 Defect Removal Efficiency
 Delivered Defect Density by effort
 Delivered Defect Density by size
 Failure Cost of Quality %
 Overall Cost of Quality %
 Post production defect density by Effort
 Post production defect density by Size
 Prevention Cost of Quality %
 Productivity
 Application Strengthening (ticket volume) (reporting period)
 Size Variation %
 Tickets backlog %
 RCA to permanent resolution
 % increase in stability
 Unit Test Coverage

Regulatory Compliance

% Core Effort
 % Effort reduction from reusable components
 % Emergency Tickets
 % Improvement in Maintainability
 % of regression test cases added
 % of successful handovers to Production Support
 % Reduction in Cost Of Ownership
 % Rework Effort
 % Tickets rolled back after deployment
 Appraisal Cost of Quality %
 Average Effort Variation %
 Average Schedule variation %
 Code Review Coverage
 Cycle time reduction for new releases
 Defect Density by Effort
 Defect Removal Efficiency
 Delivered Defect Density by effort
 Delivered Defect Density by size
 Failure Cost of Quality %
 Overall Cost of Quality %
 Post production defect density by Effort
 Post production defect density by Size
 Prevention Cost of Quality %
 Productivity
 Requirements Stability by effort (RSI)
 Size Variation %
 Tickets backlog %
 Number of compliance issues resulting from Audit
 Unit Test Coverage

Metrics Flow in Cognizant 2.0



Service DART – Metrics Generation



- Service DART is a Cognizant Owned Data Analytics and Reporting Tool.
- It supports mainly Ticket Analysis and Effort Analysis.
- Ticket dump exported from the Ticketing tool can be uploaded into Service DART
- Also, associates are mandated to enter timesheets in Service DART on a daily basis
- Based on the ticket data and effort data, Service DART calculates Metrics and generates many useful reports on Ticket Distribution, Effort Distribution and SLA Adherence
- Service DART also includes Trend Analysis charts

Snapshots of Service DART – Effort Tracking

Service DART - Windows Internet Explorer
https://servicedart.cognizant.com/

Favorites Yoga Shop for Indian designer ... Google How To Get...and Stay... O... 10 in1 Original ERD Wall C... Photo Frames eBay

How all we can save mone... Service DART egg recipes for toddlers - ... Page Safety Tools ?

Welcome Sangeetha AVM DEMO ? Project Name 1000046836-Global Manag

Cognizant AVM CoE

Dashboard Service Operational Metrics Effort Tracking Self Start Configuration

Effort Tracking - Timesheet Creation

Date 3 - Oct - 2013 15 * Timesheet for today will be frozen by 3 PM IST tomorrow Click here to install Desktop based Timesheet Widget

LOB	Track	Shift	Ticket	App Group	Application	Service
AVM SBU	AVM SBU Ac	General	Non-TicketActivity	AVM SBU Onboarding	AVM SBU Onboarding	Continual Service Im

Save Submit Total Hours: 0

Done Local intranet | Protected Mode: Off 100%

Snapshots of Service DART – Reports Menu

Service DART - Windows Internet Explorer
https://servicedart.cognizant.com/ Bing

Favorites Suggested Sites Web Slice Gallery

Service DART

Dashboard Service Operational Metrics Effort Tracking Self Start

Reports Menu (click here to collapse menu)

- ▲ Ticket Arrival trend
 - Ticket Distribution
 - By Priority
- ▲ Turnaround Time
 - By Application
 - By Outlier
 - By Priority
 - SME Application
- ▲ Assignee Load
 - By Primary Assignee
 - Resource Utilization
 - Secondary Assignee
- ▲ By Distribution
 - End User
 - Root Cause
 - Reopened Tickets
 - Priority Tickets
- ▲ Analysis
 - Pareto Analysis
 - Textual Analysis
- ▲ Effort Distribution
 - By Application

Ticket Distribution

LOB Track App Group Application

Priority

Ticket Arrival pattern - By Hour

Hour	Tickets
5AM	0
6AM	0
7AM	0
8AM	6
9AM	9
10AM	13
11AM	19
12PM	2
1PM	0
2PM	6
3PM	5
4PM	6
5PM	1
6PM	1
7PM	0
8PM	0
9PM	0
10PM	0
11PM	0

View Report Clear Export...

Snapshots of Service DART – Dashboard

Service DART - Windows Internet Explorer
https://servicedart.cognizant.com/

Favorites Suggested Sites Web Slice Gallery

Service DART

Dashboard Service Operational Metrics Effort Tracking Self Start

Start Date 1 - Aug - 2013 15 LOB Track App Group Application

End Date 16 - Aug - 2013 15

View Report Clear Export...

Ticket Distribution

Ticket Distribution - By Status

Status	Ticket Count
Active	36
Closed	32

Ticket Distribution - By Priority

Priority	Percentage
1	33.82 %
2	60.29 %
3	0.41 %
4	0.41 %
5	0.41 %
6	0.41 %
7	0.41 %
9	0.41 %
10	0.41 %

Ticket Distribution - By Ticket Type

Ticket Type	Ticket Count
CM	2
IM	19
PM	43
SR	4

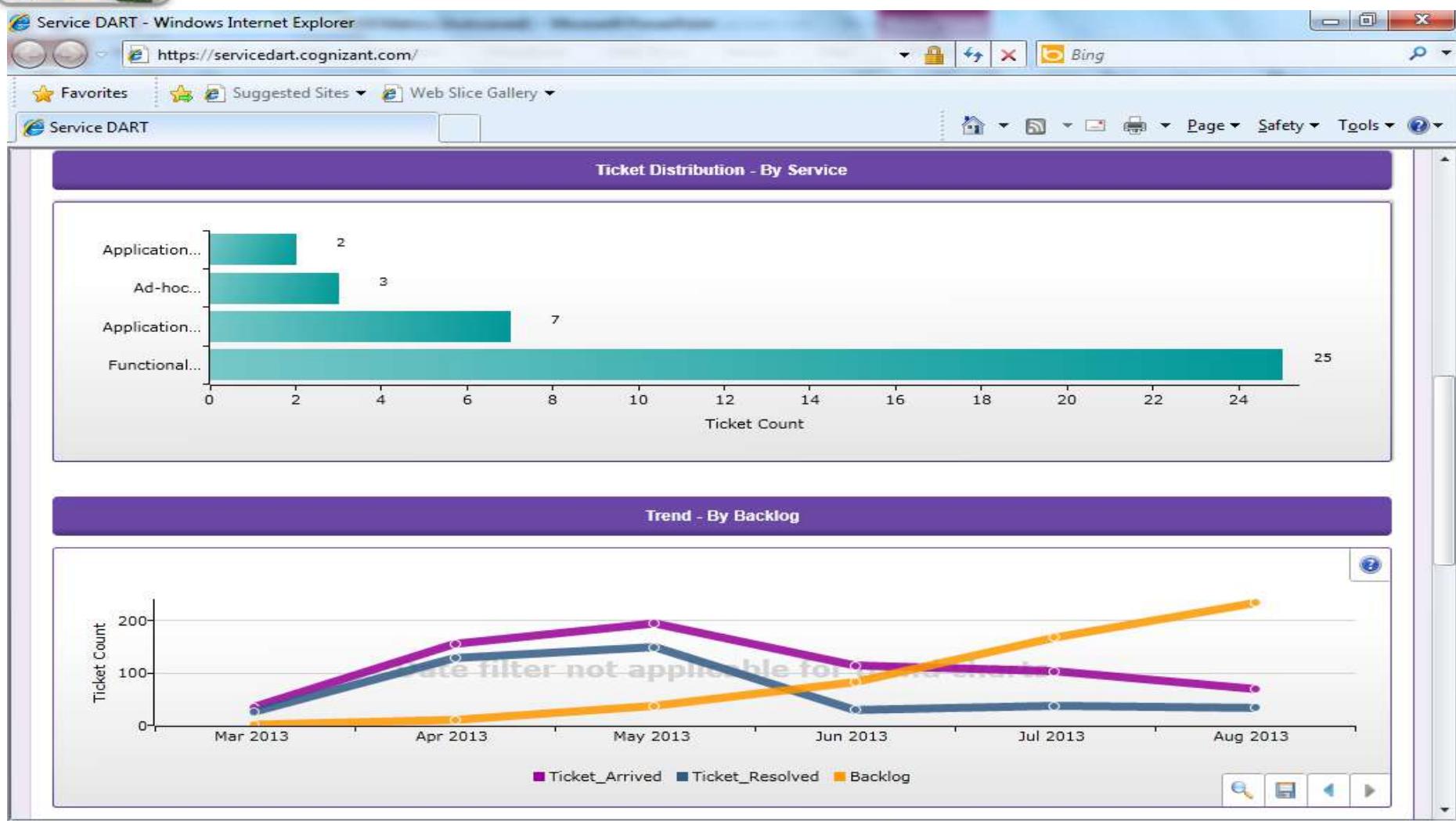
Ticket Distribution - By Service

Done

Local intranet | Protected Mode: Off

100%

Snapshots of Service DART – Dashboard



Snapshots of Service DART – Dashboard

Service DART - Windows Internet Explorer
https://servicedart.cognizant.com/

Effort Distribution

Effort - By Maintenance

Maintenance Type	Percentage
Adaptive	52.94 %
Preventive	47.06 %

Effort Distribution - By Ticket Type

Ticket Type	Effort (hours)
CM	11
IM	184
PM	21.5
SR	26

Effort - By Service

Service Category	Effort (hours)
Functional	1157.5
Project	515.5
Ad-hoc	114
Continual	70
Environment	26
Application	16.5
Business	14
Application	10
Application	9



Check Your Understanding

What are Metrics?

[Ans] Metrics refers to a system that is used to evaluate an entity – Process, Performance or Progress quantitatively

What are Benchmarks?

[Ans] Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other industries and setting up a target level for each of the metrics known as Benchmarks.

What are the steps involved in Metrics Program?

[Ans] Metrics Program involves Metrics Planning, Data Collection, Metrics Reporting and Metrics Analysis

What is KPI?

[Ans] A Metric that is used to help manage a Process, IT Service or Activity. Many Metrics may be measured, but only the most important of these are defined as KPIs and used to actively manage and report on the Process, IT Service or Activity.

Name few Key KPIs in AVM.

[Ans] Acknowledgment Time, Resolution Time, Batch cycle Time, First Time Right, Effort Variation, Schedule Variation

What is the need for Metrics?

[Ans] Metrics are derived measures and gives quantitative evaluation of activities, which helps in knowing if the project overall performance

List few metrics in Incident Resolution.

[Ans] % Ongoing Tickets Met SLA – Response, % Ongoing Tickets within Resolution SLA, First level resolution rate, % of Tickets Reopened, Ticket Productivity, Tickets backlog %



Summary

What is a Metric?

What is typically measured in AVM Projects?

What are Benchmarks?

Metrics Process - Plan, Collection, Reporting, Analysis

What is KPI?

Key KPIs in AVM

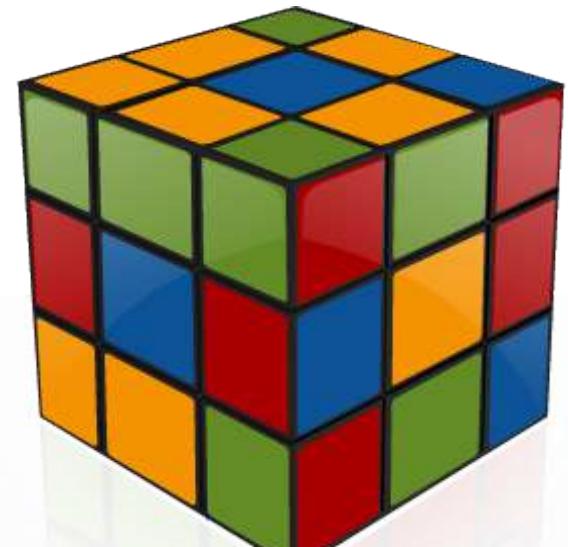
Need for Metrics and benefits in AVM

Key Metrics in AVM

List of Metrics in various Services

Metrics Flow in Cognizant 2.0

Service DART – Metrics Generation



AVM Service Line

You have successfully completed -
AVM Metrics



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

Overview of Continual Service Improvement



LEVEL – LEARNER



Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



This session is for the Entry level trainees to give an overview about CSI in AVM and its importance



Objective

After completing this chapter, you will know about

- Cognizant - 2015 STRATEGY
- Why CSI is required?
- Cognizant view of High Performance enablers
- ITIL & CSI
- Continual Service Improvement (CSI) @ AVM



COGNIZANT - 2015 STRATEGY



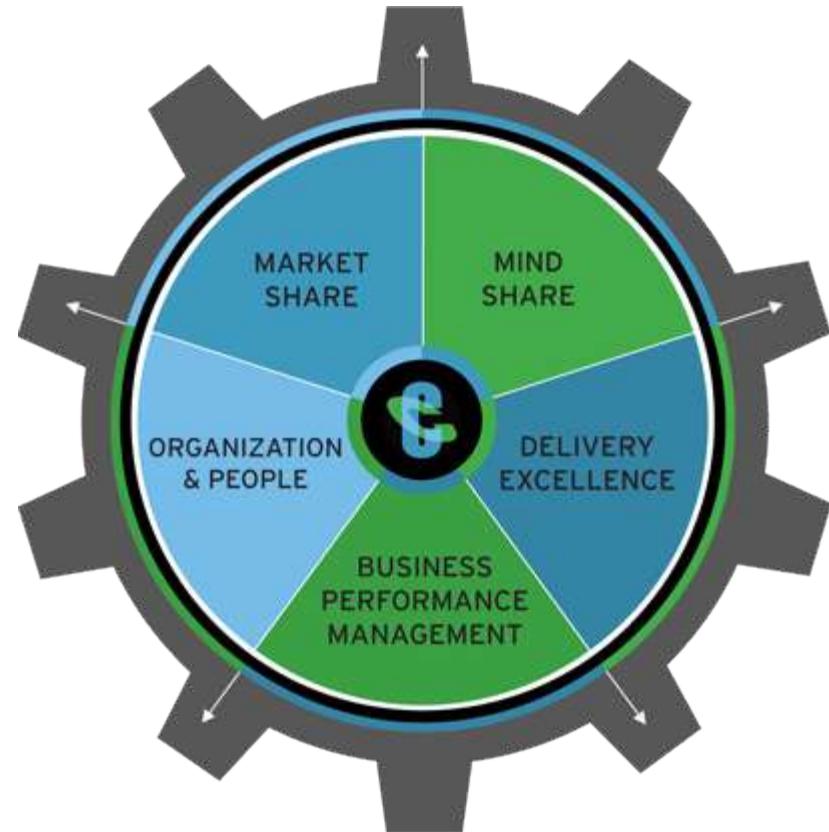
Mission statement of

'Delivery Excellence'

Improve our ability to transform delivery to meet client needs and expectations

Hence a focused AVM strategic business unit to enable best-in-class outcome-based delivery

COGNIZANT 2015
Shape the Future Now!



Why Continual Service Improvement is required?



- ▶ In the business world, winning once is just not enough. Even if you score big, you can't rest on your laurels
- ▶ Else we face the fate of many once-successful companies that got to the top but couldn't stay there
- ▶ There is a decay of customer experience and yesterday's high performance becomes today's standard and customers expect value additions over and above
- ▶ High performing companies are forced to stay afloat the Industry leading performance



Run it better



Continual Service Improvement



Run it different

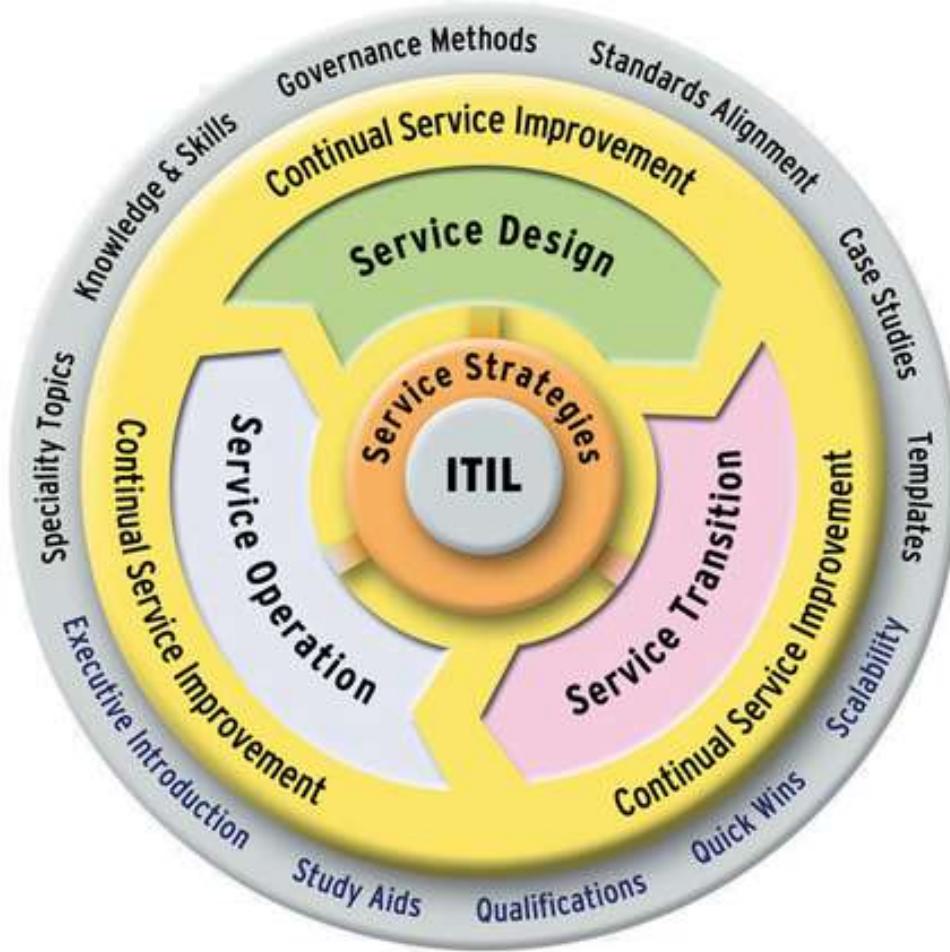


Transformation



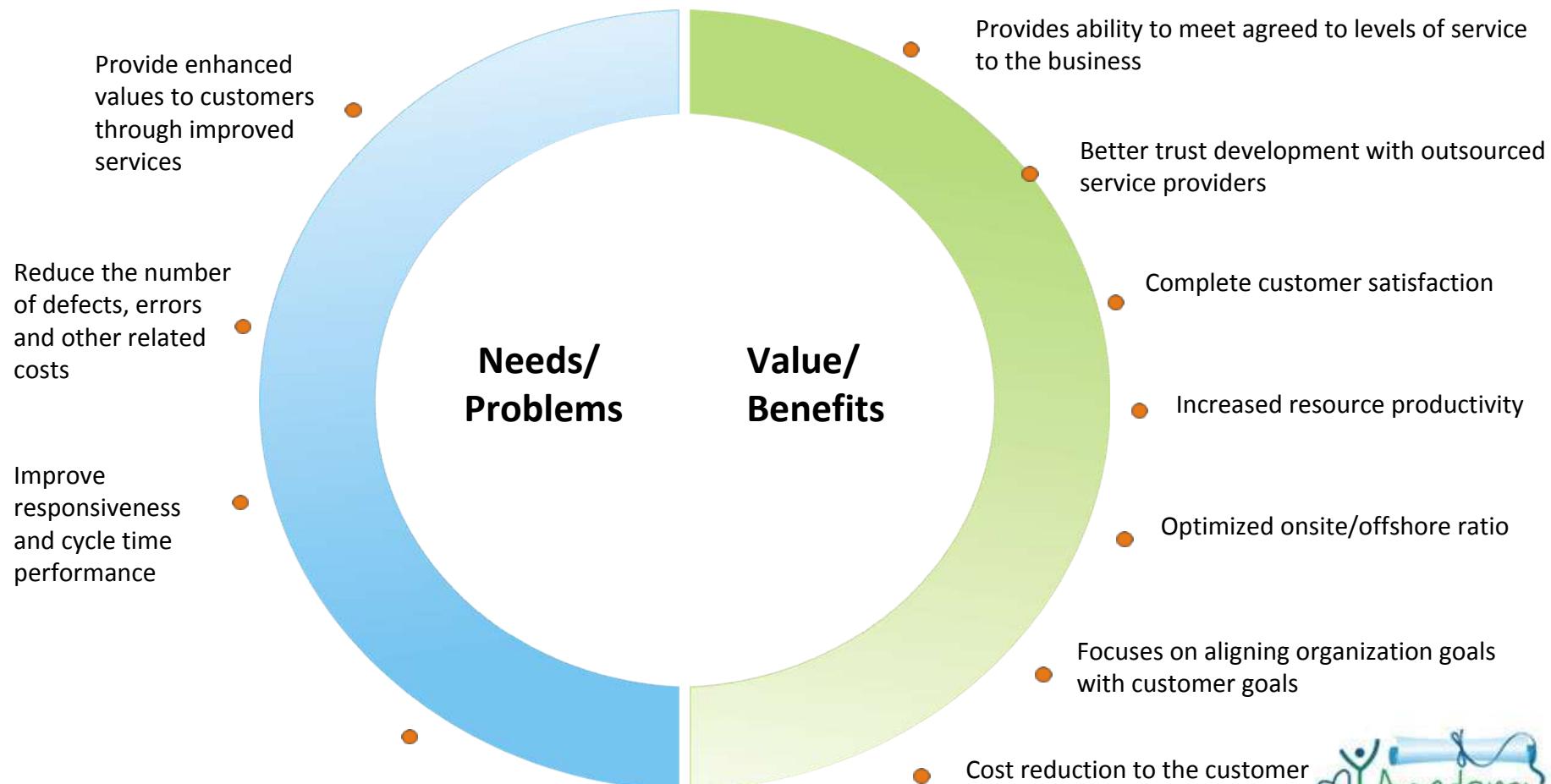
ITIL & CSI

- Alignment and re-alignment of services, processes, functions, etc. with changing business needs.
- Consistent application of quality management methods to the overall Service Management effort



Continual Service Improvement (CSI) @ AVM

After the engagement is in steady state, the applications are fine tuned to bring about stability and realize more improvements. Continual Service Improvement is an ongoing activity which involves gathering and processing data, performing analysis, identifying and implementing improvement opportunities





Summary

- The primary purpose of Continual Service Improvement (CSI) is to continually align and re-align IT services to the changing business needs by identifying and implementing improvements to IT services that support business processes
- Continual Service Improvement is an ongoing activity which involves gathering and processing data, performing analysis, identifying and implementing improvement opportunities
- Cognizant's view this through two imperative initiatives termed with the mantra of Run Better and Run Different.
- Run Better signifies the way in which we would consistently out-perform ourselves through continual services Improvement strategies and
- Run different is predominantly how we transform our services and create customer value in our relationships.
- CSI helps for consistent improvement in the quality where in we always focus on improving the efficiency, maximizing the effectiveness and optimizing the cost of services
- Reference - <https://cognizant.kpoint.com/playlist/view/222>

AVM Service Line

You have successfully completed -
Continual Service Improvement – Induction



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

Best Practices

LEVEL – LEARNER



Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding

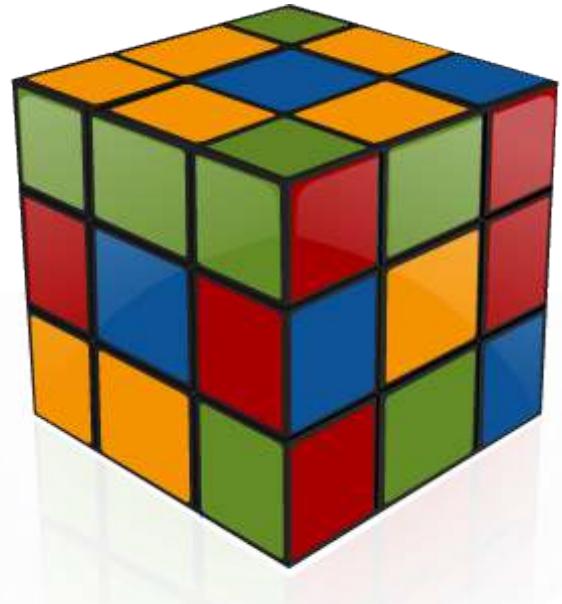


Objective



After completing this course, you will be able to understand:

- Best Practices – What are they?
- Outcomes of Best Practices
- Examples of Best Practices
- Best Practices resulting in Efficiency
- Best Practices resulting in Effectiveness
- Best Practices resulting in Transformation
- Best Practices resulting in Innovation



Definition of a Best Practice

- A **Best Practice** is a method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark. In addition, a "best" practice can evolve to become better as improvements are discovered.
- Best practice is considered as the process of developing and following a standard way of doing things that multiple organizations can use.

Outcomes of Best Practices

Following the best practices in an AVM Engagement, can help in achieving the below benefits

- Efficient and Effective Operations
- Better Organized way of working
- Reduced Maintenance and Operating costs
- Improves Reliability
- Improves Customer Satisfaction

Examples of Best Practices



Few examples of best practices in an AVM Engagement

- Create and maintain checklists/guidelines
 - Checklists and FAQ documents for batch monitoring
 - Production Support – Dos and Don'ts
 - Points to check before restarting critical Production jobs
 - Induction checklist for new joiners
- Perform Root Cause Analysis(RCA) on repeated incidents and implement permanent resolution
- Bring in Automations for Manual repetitive tasks
- Maintain shift handover-takeover documents

AVM Best Practices



Based on their outcome, AVM Best Practices can be categorized under:

Effectiveness is about doing the right task, completing activities and achieving goals.

Efficiency is about doing things in an optimal way, with the least waste of time, effort and money

Transformation is a process of profound (thoughtful) and radical (essential) change that orients an organization in a new direction and takes it to an entirely different level of effectiveness.

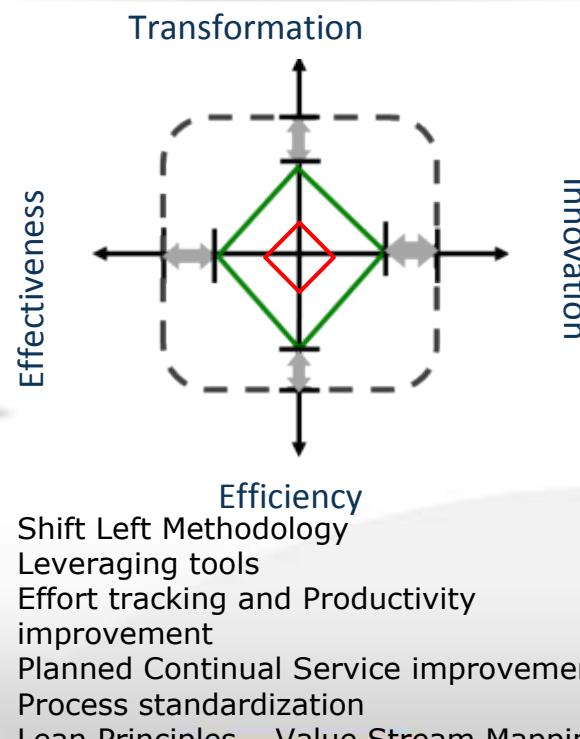
Innovation is the application of new solutions that meet new requirements or existing market needs. This is accomplished through more effective services, processes, products, technologies or ideas

List of Existing AVM Best Practices

- Operating Model enabling Segregation of duties
- SME Development Program
- Knowledge framework
- Static code analyzer for improving application maintainability

- CMDB
- Self Service Strategy

- Idea management System

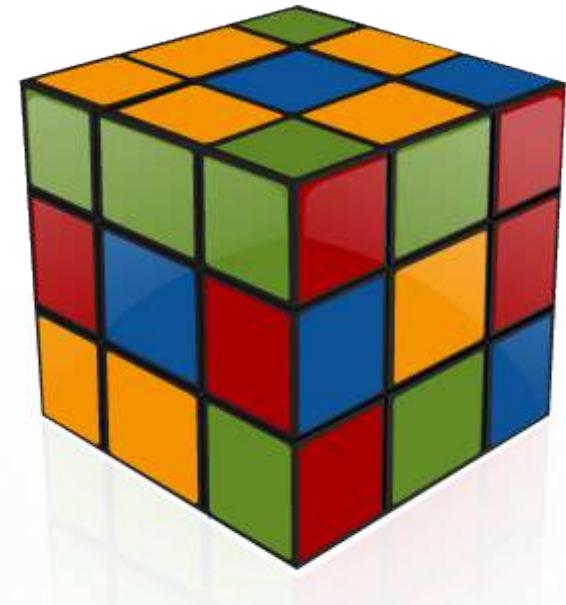




AVM Best Practices resulting in Efficiency

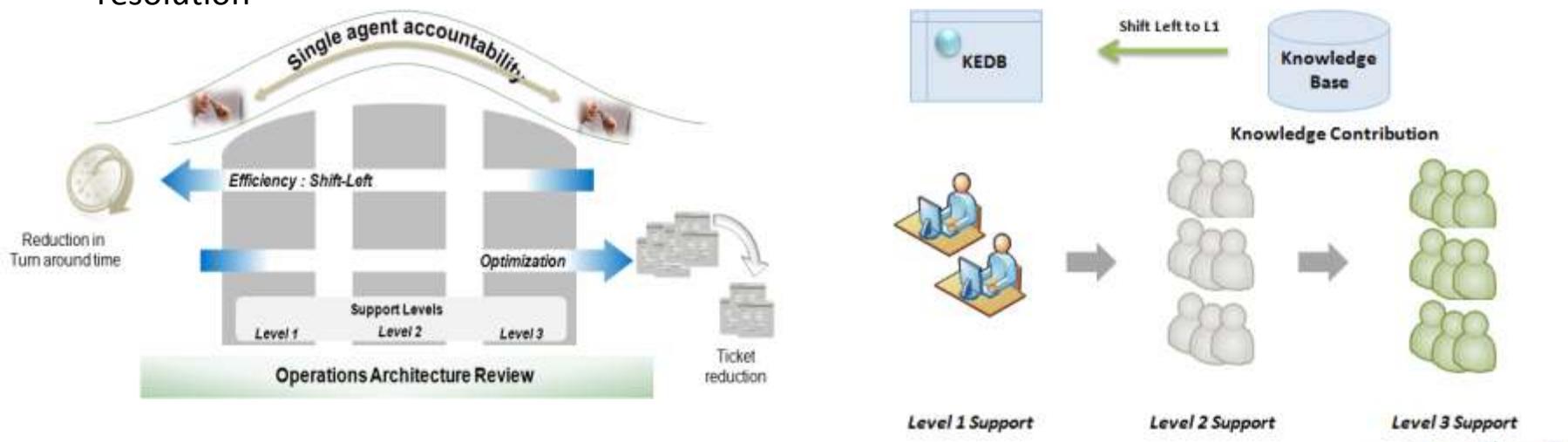
❖ Few examples - Best practices resulting in Efficiency

- Shift Left Methodology
- Leveraging tools
- Effort tracking and Productivity improvement
- Planned Continual Service improvement
- Process standardization
- Lean Principles – Value Stream Mapping



Shift Left Methodology

- Level 2 and Level 3 teams should add/update entries in KEDB / KB for all the issues that they resolve, transferring the knowledge to the LEFT so that the L1 team can actively use KEDB to take up similar issues in future.
- Effective KEDB/KB usage results in improved First level resolution resulting in Faster turn around of similar tickets and improved customer satisfaction
- Cost efficiencies gained through Operational analyst working in L1 layer instead of Technology experts
- Leverage Known Error Database (KEDB) and Knowledge Base (KB) to document issues and resolution



Leveraging Tools

The right tool to be chosen and used according to the requirement and scope.
Usage of tools would lead to improvement in productivity and quality



<https://oneavm.cognizant.com/SteadyState/SitePages/Tools%20and%20Platforms.aspx>

Effort Tracking & Productivity Improvement

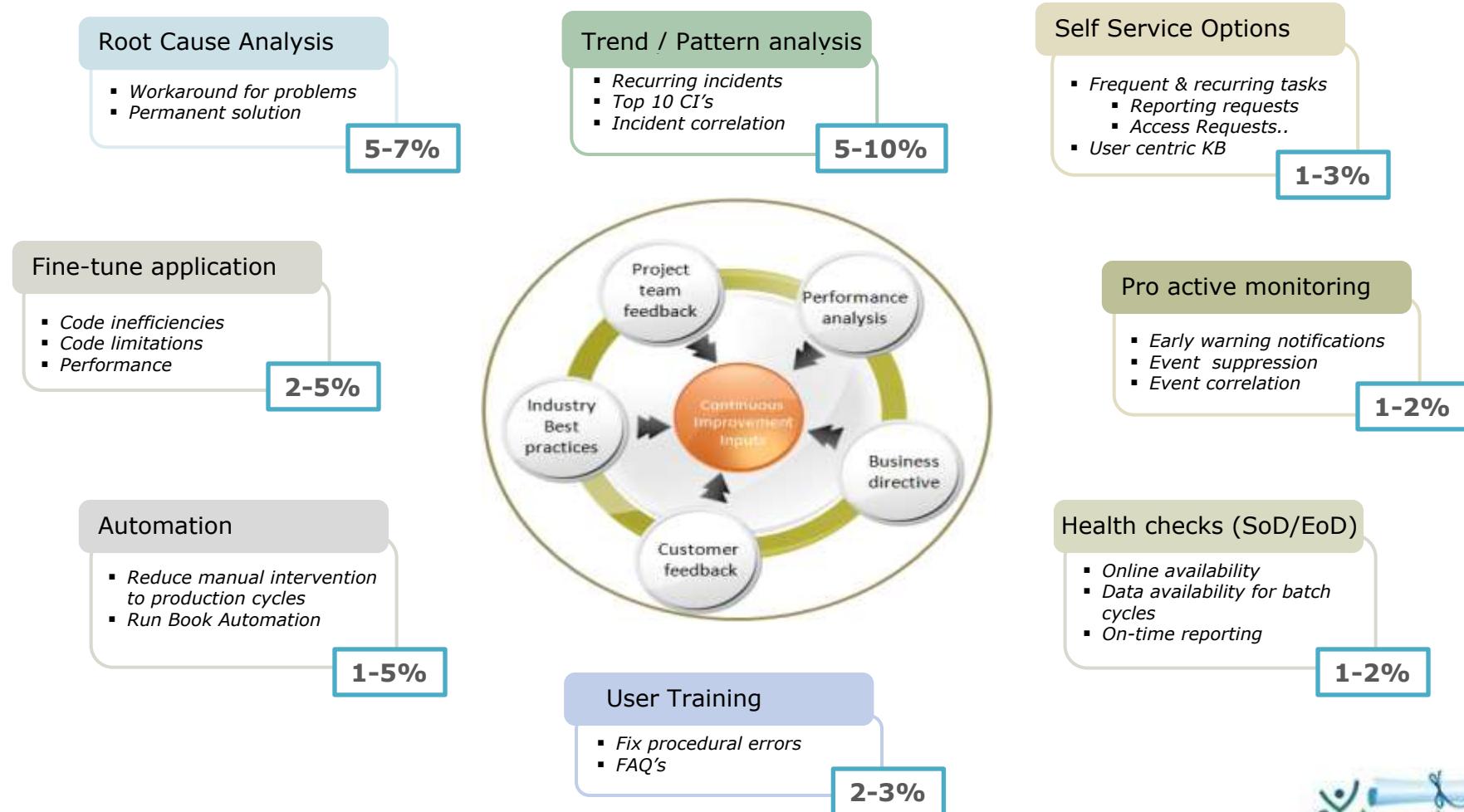


As the saying goes "**Something not measured cannot be controlled**"

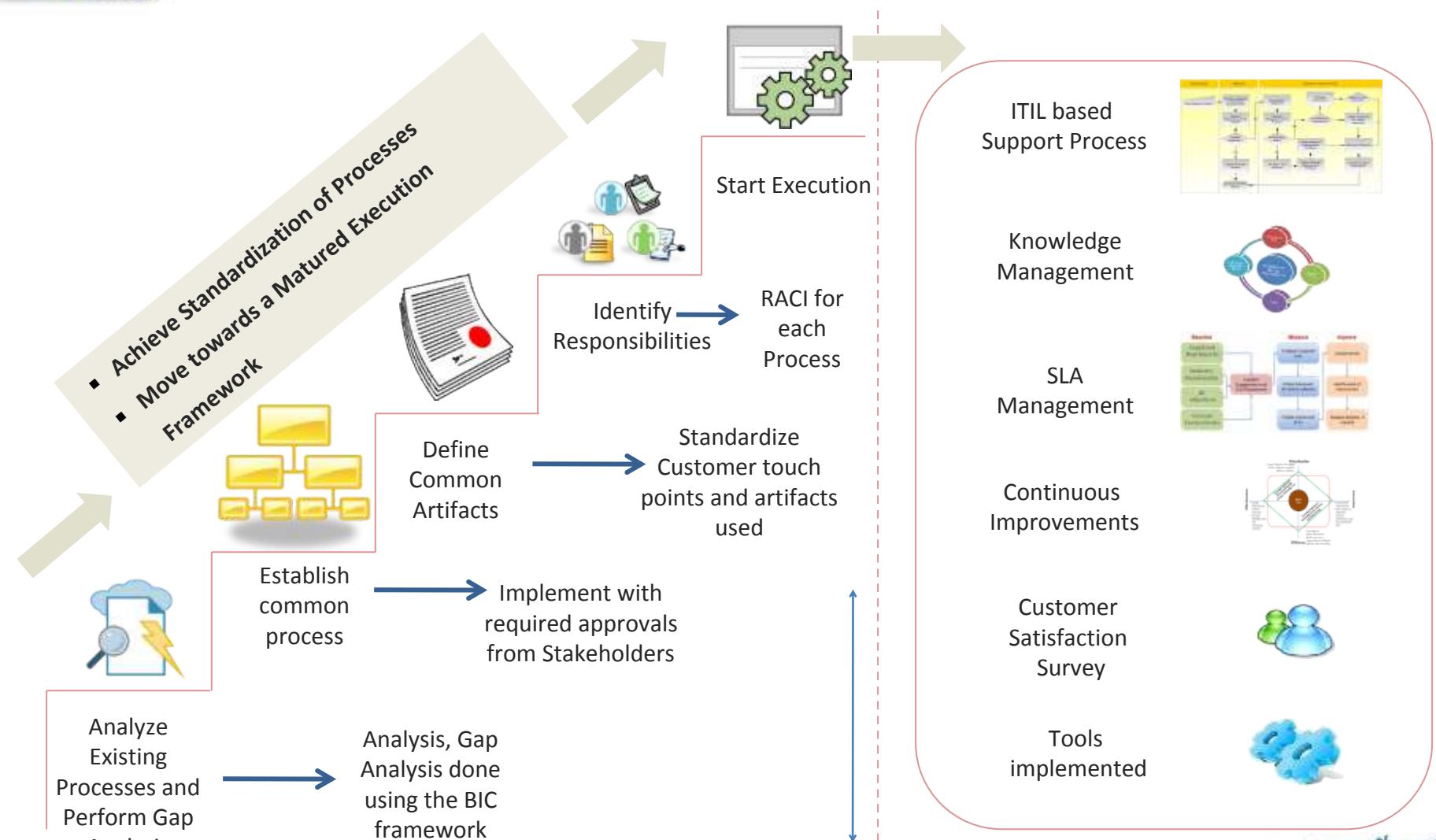
- Measurement is the first step that leads to control and eventually to improvement
- Capturing the effort at a granular level will enable performing analytics and to bring control measures to improve productivity
- Effort monitoring and control will help address many of the frequently asked questions
 - How many support people will you need?
 - How does your time-to-repair compare to other similar support environments?
 - What proportion of time is spent on maintenance and what on support?
 - What percentage of time is being spent on the different categories of maintenance: Corrective & Preventative; Perfective & Adaptive?
 - What percentage of time is being spent on the different categories of support: User Help & Advice, Queries & Quick Service, Problem Investigation?
 - How do you compare to other Organizations in the same industry?
- Answers to the above questions will lead to Optimization and productivity improvement
- Service DART tool can be leveraged to track the effort for each activity at a ticket level

Planned Continual Service Improvement

Continual Service Improvement is the process of improving (incremental) the of day to day service delivery operations. CSI is a hygiene. The below picture depicts various ways of performing CSI



Process Standardization



Lean Principle – Value Stream Mapping



Value stream mapping (VSM) is one of the lean principle techniques used to identify wastes and sources of wastes in a given process flow. VSM helps to capture and depict the process flow end to end as it happens in reality and in calling out elements of wastes which can be removed to improve operational efficiency.

VSM will help identify some of the elements of waste that include

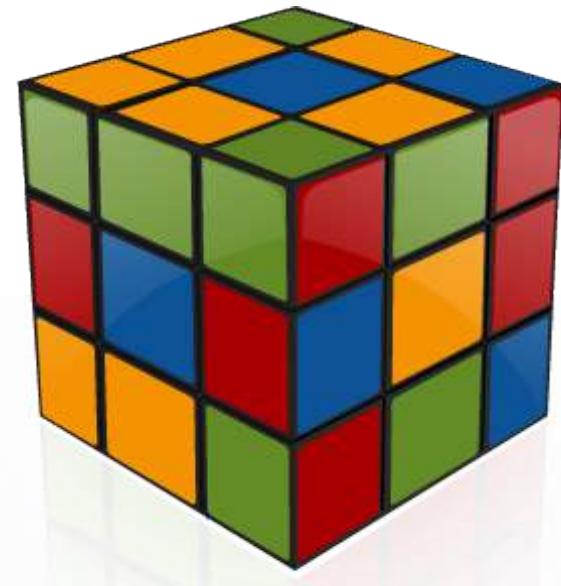
- Process redundancies
- Manual processes that can be automated
- Inadequate usage of tools
- Deviation from Standard processes
- Delays in activities
- Workflow issues

AVM Best Practices resulting in Effectiveness



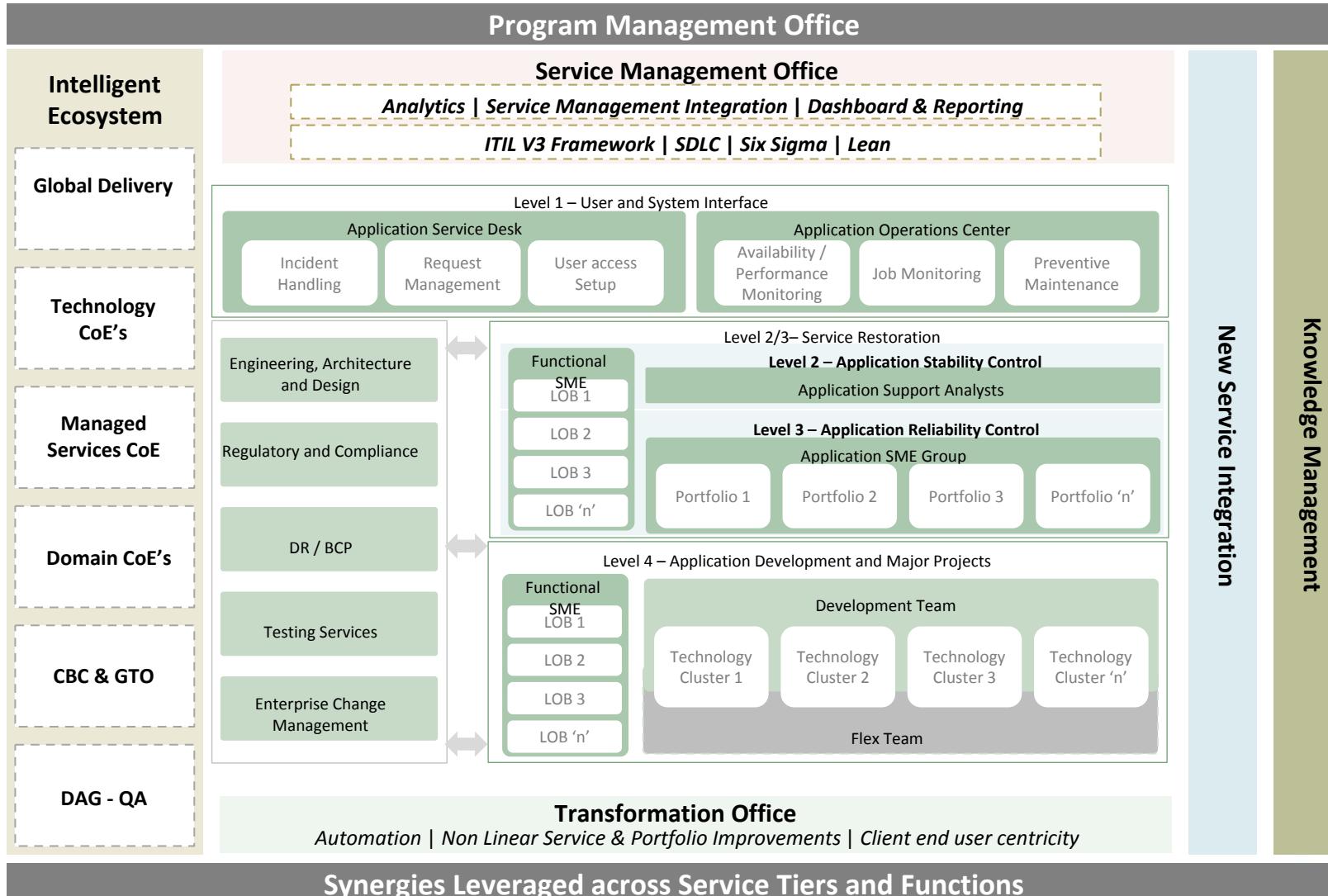
❖ Few examples - Best practices resulting in Efficiency

- Operating Model enabling Segregation of duties
- SME Development Program
- Knowledge Framework
- Static code analyzer for improving application maintainability



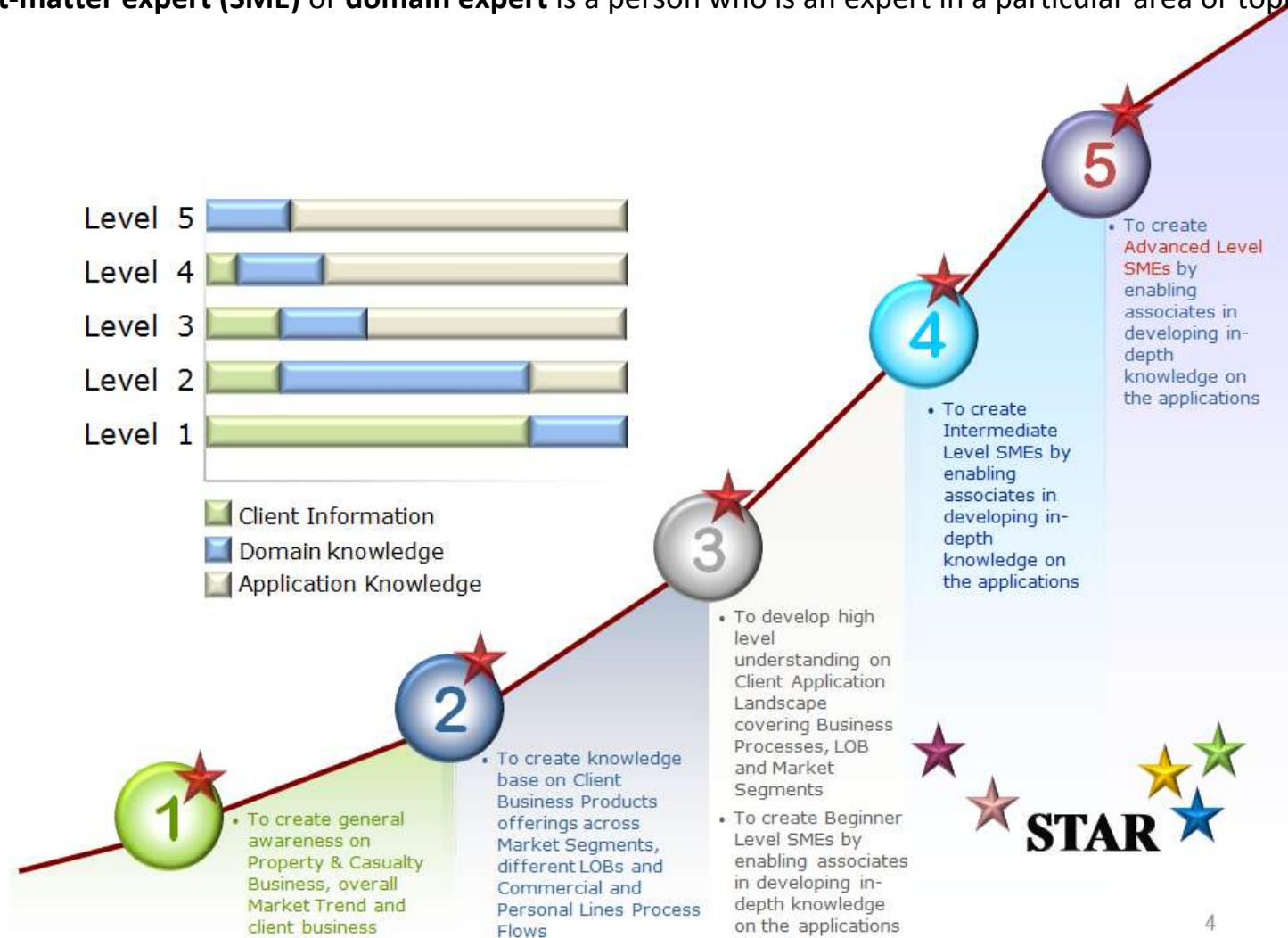
Operating Model enabling Segregation Of Duties

Defined Operating Model gives clear picture of the Roles and Responsibilities



SME Development Program

A subject-matter expert (SME) or domain expert is a person who is an expert in a particular area or topic





Knowledge Framework

Knowledge Acquisition

- Technology specific training
 - Technology / Domain certifications
 - Project experience
 - KM portals, eLearning
 - Documented support procedures

Knowledge Sharing

- Knowledge sharing sessions
 - Documenting knowledge in repository
 - Creating and sharing re-usable assets
 - Technology discussion forums
 - Shared workspace

Knowledge Management

Knowledge Search

- Projects
 - Troubleshooting
 - Best practices
 - Case studies
 - Knowledge repositories

Knowledge Re-Use

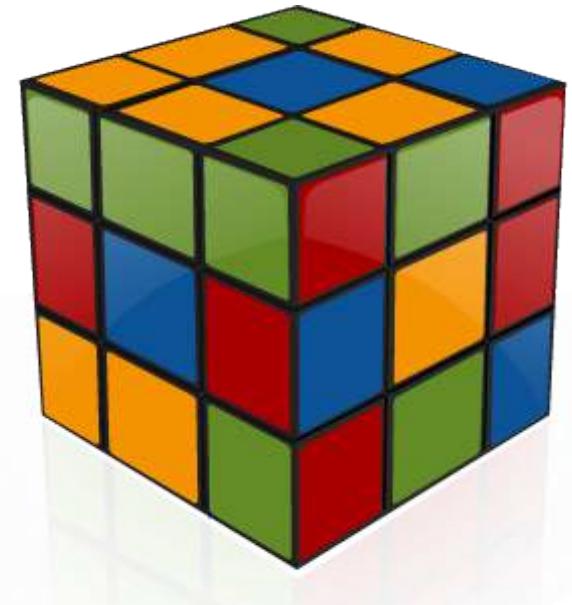
- Best practices
 - Technical documents
 - Application documents
 - Process documents

Improve Application Maintainability

- Usage of the static code analyzer tool as a dedicated source is to continuously analyze and measure the technical quality of an application and improve its maintainability.
- SONAR, an Open Source Web based platform supports multiple languages that includes Cobol, C# (.Net), JAVA, VB6, Java Script, Web (JSP and JSF), C, Flex, Natural, PHP, PL/SQL , XML, Groovy and ABAP
- Codenizant Tools – Omega .Net, Omega Mainframe and Omega JAVA have Core Engineering Practices (CEP) defined to ensure Code Quality

AVM Best Practices resulting in Transformation

- CMDB
- Self Service Strategy





Configuration Management Database (CMDB)

Cognizant

CMDB in simple terms is a database that contains information about configurable IT components along with relationships between these components.

Inventory

Readily available application information for Operations team to refer

Dependency Information

Understand upstream and downstream impact of failures

- *Incident and Change Impact analysis*

Impact Information

Support in prioritizing incidents, problems and changes

People Dependencies

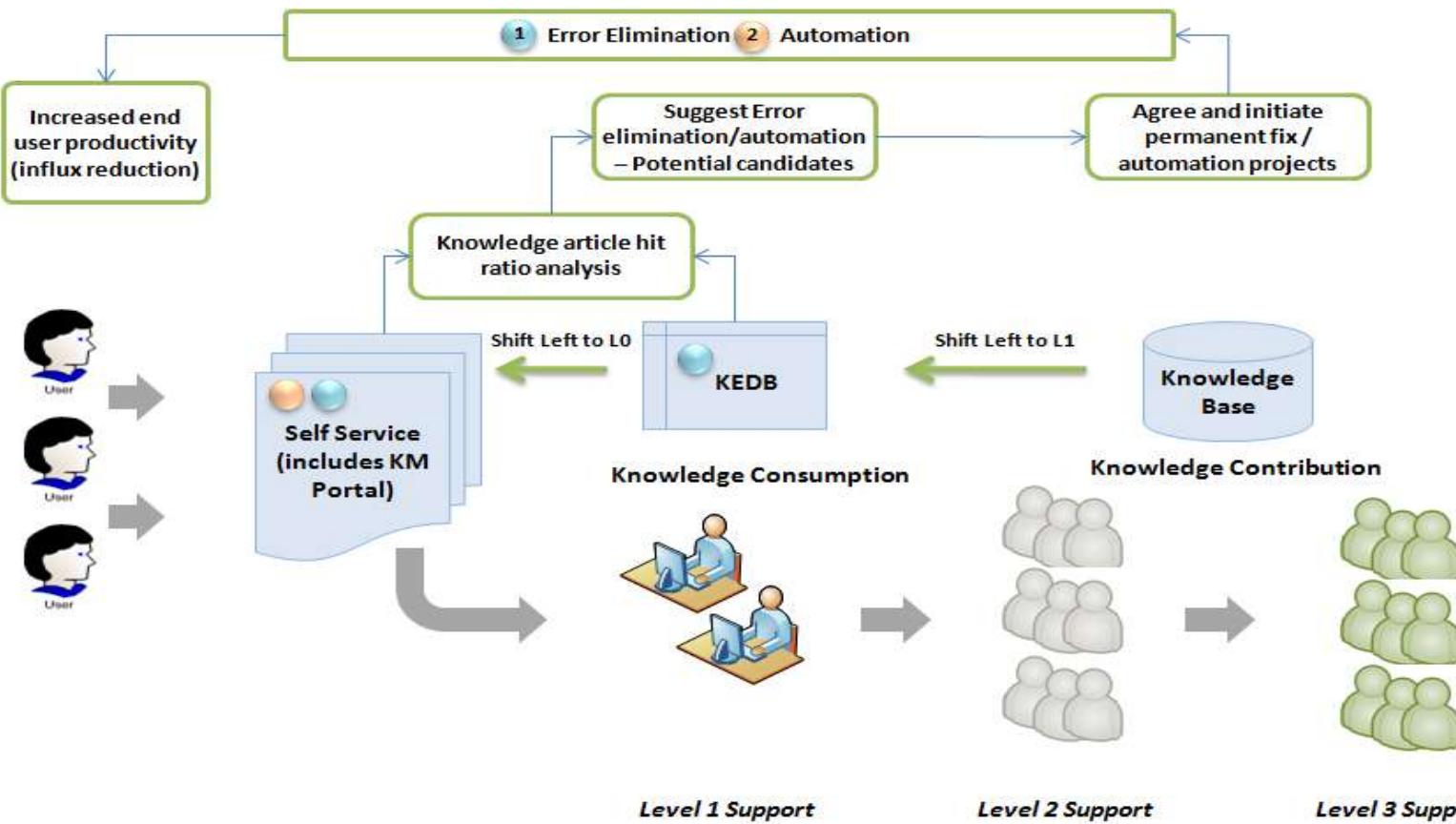
Accurate business notifications and support group identification

Service Mgmt. Data analytics

Metrics and Data analytics from Business process down to wire

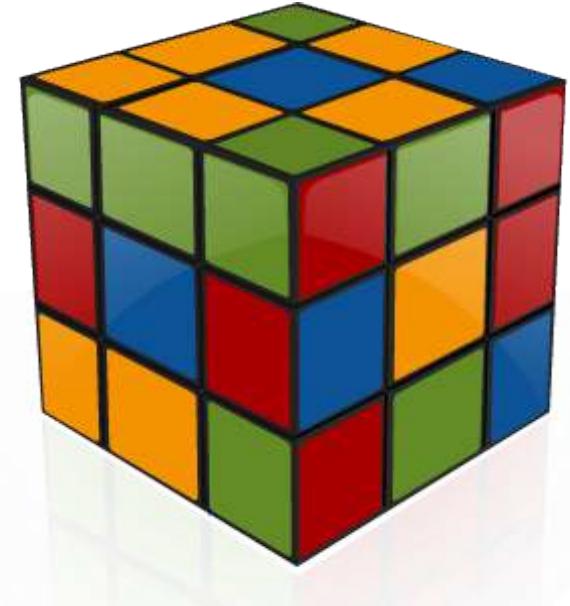
Self Service Strategy

- L2 and L3 Level support groups update KEDB so that L1 support uses the KEDB for resolving similar tickets in future(Shift Left Methodology).
- From KM portals, the recurring incidents/requests can be retrieved and RCA is done to suggest error elimination and automation, thus resulting in increased productivity and influx reduction

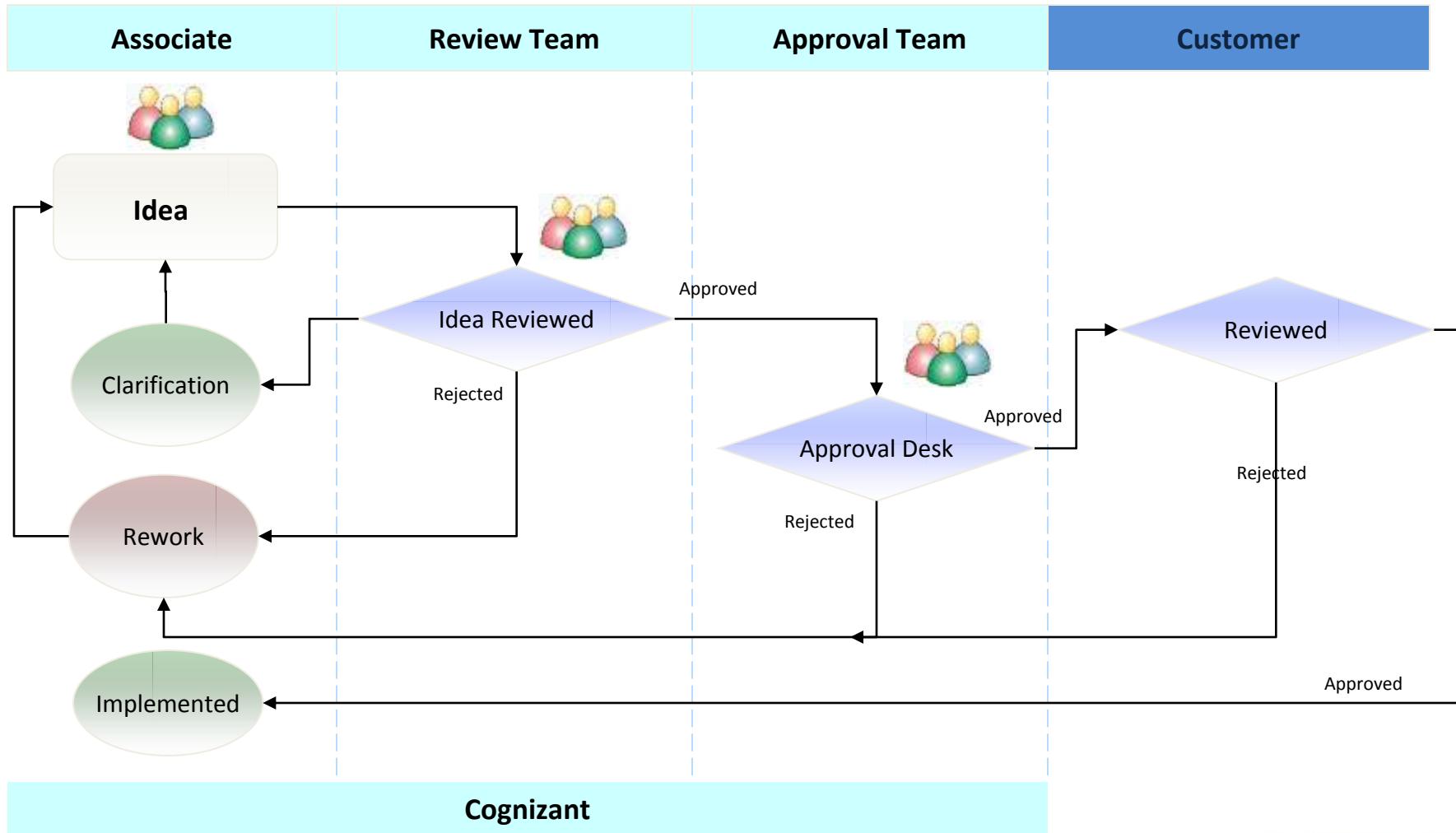


AVM Best Practices resulting in Innovation

- Idea management System
 - Cognizant owned system to capture, review, approve and implement ideas from associates



Idea Management System



Questions



AVM Service Line

You have successfully completed -
AVM Best Practices



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

AVM Quick References

LEVEL – LEARNER





Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



This session is for the Entry Level Trainees to present them Key Terminologies in AVM and provide AVM Quick References and ELM Courses



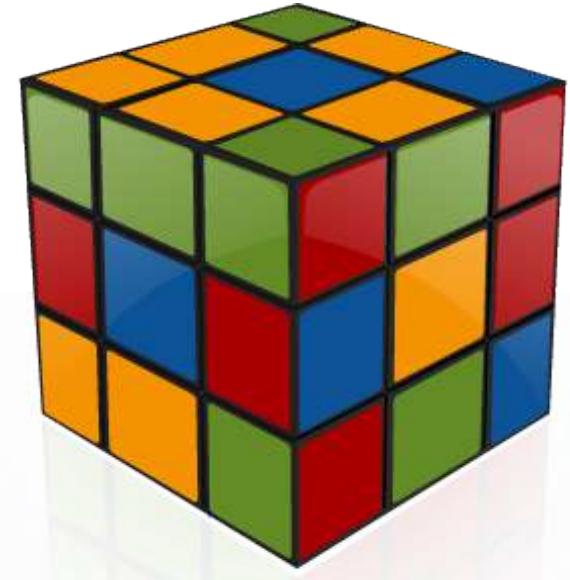
Objective

Key Terminologies in AVM

Definition of the Key Terminologies

AVM Quick References

AVM ELM Courses



AVM Key Terminologies

[AVM](#)[Backlog Management](#)[Benchmarks](#)[Bug fix](#)[Change](#)[Change Management](#)[Configuration Management](#)[CMDB](#)[CSI](#)[Enhancements](#)[Escalation](#)[Incident](#)[Incident Management](#)[Innovation](#)[ITIL](#)[Knowledge Management](#)[Knowledge Transition](#)[Known Error](#)[KEDB](#)[KPI](#)[Managed Services](#)[MSA](#)[OLA](#)[Penalty Clause](#)[Problem](#)[Problem Management](#)[Production Support](#)[RACI](#)[RCA](#)[Release Management](#)[RFC](#)[SDLC](#)[Service](#)[Service Catalog](#)[Service Desk](#)[Service Level Agreement](#)[Service Management](#)[Shift Handover Takeover](#)[Shift Left Methodology](#)[SOW](#)[SME](#)[Transformation](#)

AVM Key Terminologies



Application Value Management (AVM)

Application Maintenance Projects are referred as Application Value Management[AVM] in Cognizant. AVM Projects ensure the Maintainability and Availability of the Applications. They work towards providing fixes, improving performance or adapting the existing application to a new environment. In general, Maintenance can be Corrective, Adaptive, Perfective and Preventive

Backlog Management

With newer tickets coming in, the older ones can take a back seat and Backlog Management Process plays vital role in resolving the backlogs, (open and unresolved tickets) and clearing the queue. Backlog Management Process checks from time to time the backlogs, reasons for the backlogs and initiates steps required to resolve them.

Benchmarks

Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other industries and setting up a target level for each of the metrics known as Benchmarks.

AVM Key Terminologies



Bug fix

Bug fix is done to correct faults in an existing application. It could be Minor or Major or Super Major Bug fix

Change

The addition, modification or removal of anything that could have an effect on IT Services. The Scope should include all IT Services, Configuration Items, Processes, Documentation,

Change Management

The Process responsible for controlling the Lifecycle of all Changes. The primary objective of Change Management is to enable beneficial Changes to be made, with minimum disruption to IT Services.

Configuration Management

The Process responsible for maintaining information about Configuration Items required to deliver an IT Service, including their Relationships. This information is managed throughout the Lifecycle of the CI. Configuration Management ensures that the assets required to deliver services are properly controlled, and that accurate and reliable information about those assets is available when and where it is required.

AVM Key Terminologies



Configuration Management Database (CMDB)

Configuration Management Database contains information on specific Configuration Item types – Single Source of Truth for those CI Types. Many a times. CMDB extends beyond a Database to form a Databank – Federation or collection of multiple databases. Database that provides information for day to day operations, References and relates Configuration Items

Continual Service Improvements (CSI)

A stage in the Lifecycle of an IT Service and the title of one of the Core ITIL publications. Continual Service Improvement is responsible for managing improvements to IT Service Management Processes and IT Services. The Performance of the IT Service provider is continually measured and improvements are made to Processes, IT Services and IT Infrastructure in order to increase Efficiency, Effectiveness, and Cost Effectiveness

Enhancements

Enhancement is any application change or upgrade that increases software or hardware capabilities beyond original client specifications.

AVM Key Terminologies



Escalation

An Activity that obtains additional Resources when these are needed to meet Service level targets or Customer expectations. Escalation may be needed within any IT Service Management Process, but is most commonly associated with Incident Management, Problem Management and the management of Customer complaints. There are two types of Escalation, Functional Escalation and Hierarchic Escalation.

Incident

Incident is defined as an unplanned interruption to an IT Service or reduction in the Quality of an IT Service. Failure of a Configuration Item that has not yet affected Service is also an Incident.

Incident Management

The Process responsible for managing the Lifecycle of all Incidents. The primary Objective of Incident Management is to return the IT Service to Customers as quickly as possible

AVM Key Terminologies



Innovation

Innovation is the application of new solutions that meet new requirements or existing market needs. This is accomplished through more effective services, processes, products, technologies or ideas

Information Technology Infrastructure Library (ITIL)

A set of Best Practice guidance for IT Service Management that focuses on aligning IT services with the needs of business. ITIL is owned by the OGC and consists of a series of publications giving guidance on the provision of Quality IT Services, and on the Processes and facilities needed to support them.

Knowledge Management

The Process responsible for gathering, analyzing, storing and sharing knowledge and information within an Organization. The primary purpose of Knowledge Management is to improve Efficiency by reducing the need to rediscover knowledge.

AVM Key Terminologies



Knowledge Transition (KT)

A process of transitioning Knowledge from a person to person or from the current service provider to a new service provider. Cognizant's Transition Methodology aims at ensuring seamless transition experience without disrupting the ongoing support, by optimal use of SME time and by ensuring an optimal transition timeline.

Known Error

A Problem that has a documented Root cause and a Workaround. Known Errors are created and managed throughout their Lifecycle by Problem Management. Known Errors may also be identified by Development or Suppliers.

Known Error Database (KEDB)

KEDB or Known Error Database is an Error Code Book which has all the Known Errors documented along with its root cause and workaround. It allows easy storage and retrieval of Known Error Data

AVM Key Terminologies



Key Performance Indicator (KPI)

A Metric that is used to help manage a Process, IT Service or Activity. Many Metrics may be measured, but only the most important of these are defined as KPIs and used to actively manage and report on the Process, IT Service or Activity. KPIs should be selected to ensure that Efficiency, Effectiveness, and Cost Effectiveness are all managed.

Managed Services

Defining a catalog of IT services and managing them with clearly stated Outcomes

Master Service Agreement (MSA)

Master Service Agreement is a contract reached between parties, in which the parties agree to most of the terms that will govern future transactions or future agreements. A master agreement permits the parties to quickly negotiate future transactions or agreements, because they can rely on the terms of the master agreement when and where it is required.

AVM Key Terminologies



Operational Level Agreement (OLA)

OLA is an agreement between an IT Service provider and another part of the same Organization. An OLA supports the IT Service provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties. For example there could be an OLA:

- ⌚ Between the IT Service provider and a procurement department to obtain hardware in agreed times
- ⌚ Between the Service Desk and a Support group to provide Incident Resolution in agreed times.

Penalty Clause

A clause in the Master Service Agreement which defines the exact terms and conditions for the Penalty to be paid by the Service Provider to the Customer in instances where the Service Provider has not met the defined Service Level Agreements.

Problem

A cause of one or more Incidents. The cause is not usually known at the time a Problem Record is created,

AVM Key Terminologies



Problem Management

The Process responsible for managing the Lifecycle of all Problems. The primary objectives of Problem Management are to investigate the root cause of problems, prevent Incidents from happening, and to minimize the Impact of Incidents that cannot be prevented.

Production Support

Production Support is the practice and discipline of supporting the IT systems/ applications which are currently being used by the end users. It has four levels of support – L0, L1, L2 and L3

RACI

A Model used to help define Roles and Responsibilities. RACI stands for Responsible, Accountable, Consulted and Informed.

AVM Key Terminologies



Root Cause Analysis (RCA)

Root Cause Analysis investigates problem and identifies the underlying root cause of the problem

Release Management

The Process responsible for Planning, scheduling and controlling the movement of Releases to Test and Live Environments. The primary Objective of Release Management is to ensure that the integrity of the Live Environment is protected and that the correct Components are released. Release Management is part of the Release and Deployment Management Process.

Request for Change (RFC)

Request for Change is a formal proposal for a Change to be made. An RFC includes details of the proposed Change, and may be recorded on paper or electronically.

AVM Key Terminologies



Software Development Life Cycle (SDLC)

Software Development Life Cycle is a systematic approach of creating or altering information systems, and the models and methodologies that people use to develop these systems and is composed of the following steps:

- ⌚ Feasibility study
- ⌚ Analysis
- ⌚ Design
- ⌚ Testing
- ⌚ Implementation
- ⌚ Evaluation
- ⌚ Maintenance

Service

A means of delivering value to Customers by facilitating Outcomes Customers want to achieve without the ownership of specific Costs and Risks.

AVM Key Terminologies



Service Catalog

A database or structured Document with information about all Live IT Services, including those available for Deployment.

The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request processes.

Service Desk

The Single Point of Contact between the Service provider and the Users. A typical Service Desk manages Incidents and Service requests, and also handles communication with the Users.

Service Level Agreement (SLA)

An Agreement between an IT Service provider and a Customer. The SLA describes the IT Service, documents Service level targets, and specifies the responsibilities of the IT Service provider and the Customer. A single SLA may cover multiple IT Services or multiple customers.

AVM Key Terminologies



Service Management

Service Management is a set of specialized organizational capabilities for providing value to Customers in the form of Services.

Shift Handover Takeover

Handshake happens between Onsite and Offshore or between two consequent shifts in Offshore during the shift overlapping period. The Shift Handover- Takeover process happens during this overlapping period. Shift Handover documents are maintained and updated and handed over to the next shift associates so that they can continue the production support comfortably from the point the last shift ended

Shift Left Methodology

Level 2 and Level 3 teams should add/update entries in KEDB / KB for all the issues that they resolve, transferring the knowledge to the LEFT so that the L1 team can actively use KEDB to take up and resolve similar issues in future. This is called Shift Left Methodology. This results in improved First level resolution resulting in Faster turn around of similar tickets and improved customer satisfaction

AVM Key Terminologies



Statement of Work (SOW)

Statement of Work is a formal document that captures and defines the work activities, deliverables, and timeline a vendor must execute in performance of specified work for a client. The SOW usually includes detailed requirements and pricing, with standard regulatory and governance terms and conditions.

Subject Matter Expert (SME)

A subject-matter expert (SME) or domain expert is a person who is an expert in a particular area or topic. The term domain expert is frequently used in software development, and there the term always refers to the domain other than the software domain

Transformation

Transformation is a process of profound (thoughtful) and radical (essential) change that orients an organization in a new direction and takes it to an entirely different level of effectiveness.

AVM Quick References



ITIL_2011_Glossary



ITIL_2011_English_
glossary_v1.0.pdf

External Links:

- http://itil.osiatis.es/ITIL_course/
- <http://ezinearticles.com/?The-Importance-of-Having-an-Escalation-Management-Process&id=2655974>
- <http://www.ucisa.ac.uk/search.aspx?cx=008281077274678676179%3Ayulrfklwima&cof=FORID%3A11&q=incident>
- http://www.ucisa.ac.uk/~/media/Files/members/activities/ITIL/servicetransition/ITIL_introducing%20service%20transition%20pdf
- <http://techexcel.com/resources/whitepapers/ProblemMgmtFinal.pdf>
- http://www.ucisa.ac.uk/~/media/Files/members/activities/ITIL/service_operation/problem_management/ITIL_a%20guide%20to%20problem%20management%20pdf

AVM ELM Courses

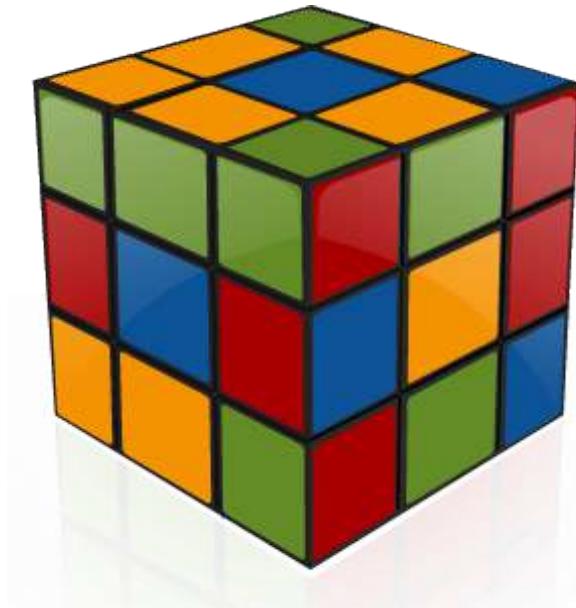


- ib_iosa_a02_it_enus - ITIL® V3 OSA: Introduction to Event Management
- ib_iosa_a10_it_enus - ITIL® V3 OSA: Introduction to the Service Desk
- ib_iosa_a03_it_enus - ITIL® V3 OSA: Introduction to Incident Management
- ib_iosa_a04_it_enus - ITIL® V3 OSA: Incident Management Interactions
- ib_iosa_a05_it_enus - ITIL® V3 OSA: Introduction to Request Fulfillment
- ib_iosa_a06_it_enus - ITIL® V3 OSA: Request Fulfillment Process Interfaces and Challenges
- ib_iosa_a09_it_enus - ITIL® V3 OSA: Introduction to Access Management
- ib_iosa_a07_it_enus - ITIL® V3 OSA: Introduction to Problem Management
- ib_iosa_a08_it_enus - ITIL® V3 OSA: Problem Management Process Interfaces and Challenges
- CUST0181 - ITIL: The Service Desk and Incident Management
- CUST0184 - ITIL: Problem and Change Management
- CUST0185 - ITIL: Continuity and Availability Management
- CUST0182 - ITIL: Configuration and Release Management
- CTKIS083 - Change and Release Management e-Learning
- BQOTA3 - Basics of Metrics (eLearning)



Summary

- Key Terminologies in AVM
- Definition of the Key Terminologies
- AVM Quick References
- AVM ELM Courses



AVM Service Line

You have successfully completed -
AVM Quick References



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

AVM Guidelines

LEVEL – LEARNER



Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview



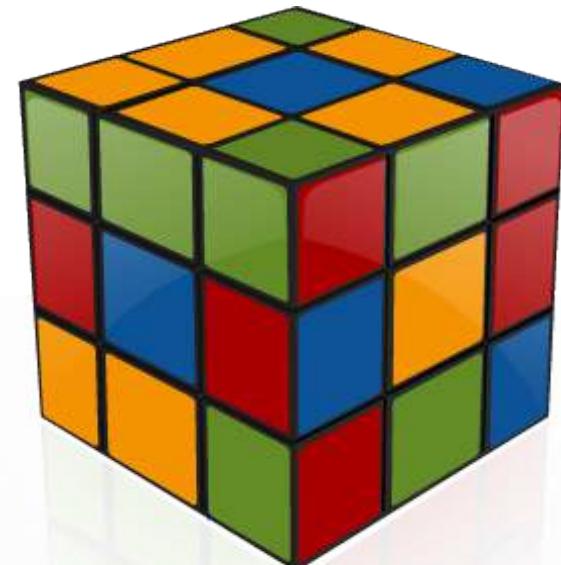
The main purpose of this session is to guide you on various good-to-know information on AVM



Objective

After completing this chapter, you will be able to understand:

- **AVM Induction Process**
- **Overview and Importance of AVM Handouts**
- **What is a Security Policy?**
- **Awareness on Security Policies**
- **Shift Handover-Takeover**
- **Service Level Agreement**
- **SLA Compliance and Breaches**
- **Shift Left Methodology**
- **Dos and Don'ts in Production Support**
- **AVM Engagement Etiquettes**
- **Escalation Process**
- **Backlog Management**
- **Reporting in AVM**
- **Crisis and its causes**
- **Types of Crisis**
- **Crisis Management**
- **Dos and Don'ts during Crisis**
- **Business Continuity Planning**
- **Risk Management**





AVM Induction Process

- Entry Level Trainees are trained on the AVM Service Line in their CATP during Stage 2 from 6th to 17th week
- Once their allocation to an AVM Project is confirmed, they would undergo training on Project specific skills during Stage 3 – 18th to 20th week as directed by the Business Units
- Pre-induction, based on the Customer's Policies, associates will go through Personal Background Verification Process, if any. When cleared, they would sign NDA [Non-Disclosure Agreement] on the Information Security front.
- Once on boarded into the AVM Project, the associates would undergo the Core Induction Training, commonly referred as Knowledge Transition [KT], which covers
 - Application supported by the project
 - Core Deliveries, Activities and Processes involved in the project
 - Related Guidelines/Handouts
 - Client Mandated Trainings/Certifications
 - [E.g. Associates inducted into HealthCare Business Unit will have to complete HIPAA Training and Certification]
 - Specific Technology/Tools as required by the project

AVM Induction Process (Contd.)

- KT would be provided by the Lead/members in the Project Team
- The Induction or the KT phase generally spans across 2 weeks to a month based on the role taken and time factor
- Reverse KT follows the KT phase where the new joiner would in turn take sessions to his/her trainers reciprocating the Knowledge acquired during KT.
- Also, the new joiner would have to clear internal assessments, if any, at the end of the Induction Process

Post Induction:

Once the associate has undergone the Induction Training and has been evaluated as “fit” for the Project, the Project Lead/Manager will get him the required access to start work. It includes access to -

- Project Application
- Tools
- Group Mailbox
- Portals/ Share point
- Project Specific software

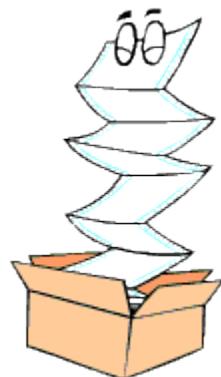
Overview of AVM Handouts



Support Groups play a vital role in the success of clients' business.

Handouts are Guiding Principles for Support Groups

*How to use
handouts
effectively*



Overview of AVM Handouts (Contd.)

- Upon induction of new joiners, AVM Project Lead/Manager will share the project specific Handouts.
- The new joiners should go through them in detail and reach out to Leads/Managers if they have any queries.
- **The Handouts have to be read and followed religiously** as they have evolved from Cognizant/Client Policies, Past Experiences, Lessons Learnt and Best Practices prevailing across the Organization.
- Handouts can be prepared for multiple scenarios, especially, for the critical activities carried out in the project. **Some examples are**
 - Handouts on Security Policies
 - Handouts on AVM Etiquettes
 - Handouts on Production Support
 - Handouts on Crisis Management





Importance of Handouts

- Handouts helps the support team in knowing
 - ✓ What are right actions to be taken during production support
 - ✓ What are incorrect actions to be avoided during production support
 - ✓ What are primary actions to be taken and whom should be informed for any critical issue
 - ✓ Primary bridge / phone numbers for any escalations
 - ✓ Awareness on security policies
 - ✓ Guidance to maintain security compliance



Sample Production Support Handout

DO's



- ✓ Call immediately for any crisis/updates (however small the issue might be) with your respective supervisor and post a mail
 - ✓ Give high importance to repeated issues and escalate immediately to your supervisor with the perceived reason
 - ✓ Post release, check the released object(s) and confirm to RM team, also update the same in Unicenter
 - ✓ Look at the issue from the user's perspective and understand its impact towards the business
 - ✓ Follow the standard mailing format, keeping the contents simple and non-technical
 - ✓ Update support tickets/CR tickets with all the relevant information in Unicenter no matter how trivial it is
 - ✓ Always use development profile while resolving issues
 - ✓ Reason out WHY and HOW the issue can be resolved
 - ✓ Have incident document reviewed by the DM/AM before sending to customer
 - ✓ Adhere to mailing etiquettes while composing e-mails (e.g. Meeting requests, Out of Office replies, etc)
 - ✓ Share baseline artifacts in i*** & contribute towards QC
 - ✓ Log your efforts daily
 - ✓ Be punctual, plan your leave and inform your supervisor well in advance

DON'Ts

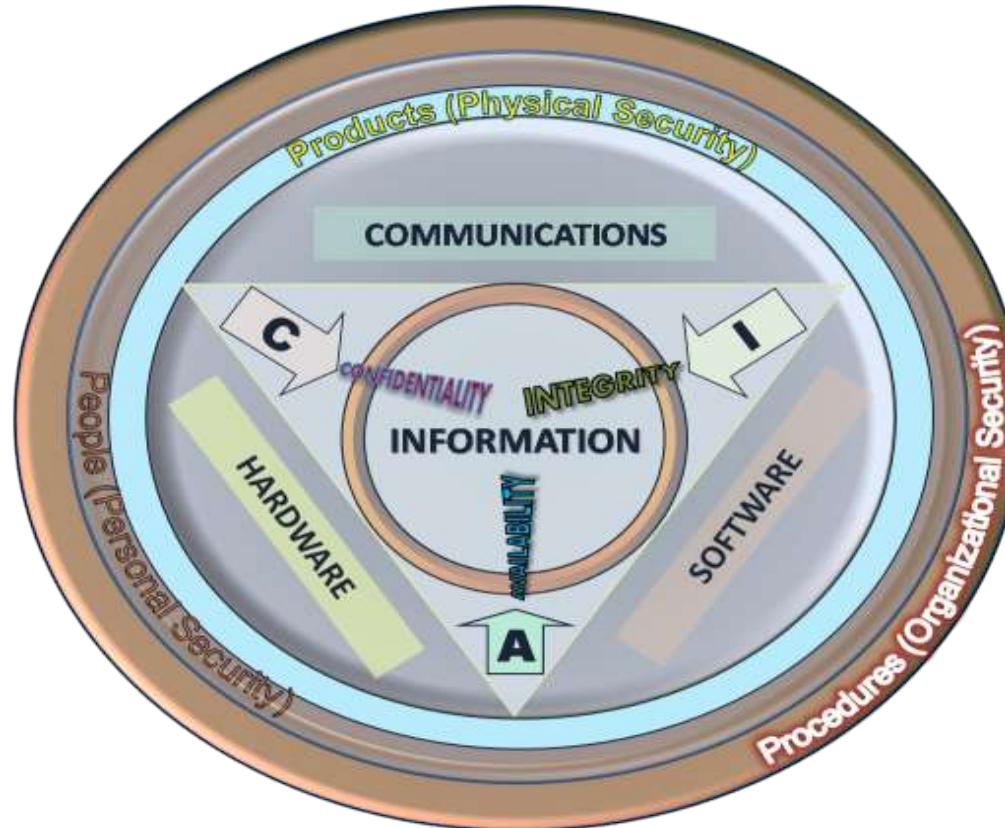


- ✗ Assume
 - ✗ Fix data without approval
 - ✗ Use high authority profiles like MCSHELP or PARIS38 for analysis
 - ✗ Refresh any database/program in QA without | Approval
 - ✗ Dump/ignore jobs while handling calls before analyzing the actual cause
 - ✗ Continue to retain any ticket in 'Pending Confirmation' even after the user has come back with a clarification
 - ✗ Compromise on quality in a race to solve more tickets
 - ✗ Hesitate to express any minor or major issue with your supervisor at any point of time
 - ✗ Ignore any mail communication from leads/managers
 - ✗ Put the ball in others' court (between teams)
 - ✗ Shy away from your responsibilities
 - ✗ Be over confident



What is a Security Policy?

Security policy is a definition of what it means to *be secure* for a system or an organization. Below picture depicts various Securities involved.





Awareness on Security Policies

- Information Security is crucial to any IT Organization
- Each one of us are responsible for upholding the Information Security which includes Hardware, Software and Communication. This ensures that our Clients, Cognizant as an Organization and we associates are secure
- Security issues are considered under zero tolerance mode and violating the policies will have a serious impact
- As part of security policy we should not share our ID/Passwords on Client/Cognizant Network. Official e-mail IDs not be used for personal use. Prohibit unauthorized access of Client/Cognizant systems - Lotus Notes, Outlook, Sametime, OCS, Client Applications.

Awareness on Security Policies (Contd.)

- The below e-Learning in ELM needs to be completed mandatorily to understand Cognizant Security Policies
 - > [Acceptable Use Policy \(AUP\) \(eLearning\)](#)
 - > [Core Values and Standards of Business Conduct II](#)
- Additionally, clients can pose their Security Policies and can vary from client to client
- Many clients do a Personal Background Verification of the associates inducted into their projects. They also obtain a Non Disclosure Agreement (NDA) from the associates joining in. It's mandatory to comply to such Security Policies with utmost care and caution

Shift Handover – Takeover



Shift Handover Takeover



Production Support - Timeframe - DST

	AM												PM											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
UK Work Hours																								
Cognizant Onsite (UK)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
India-Shift 1	5:30	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30	0:30	1:30	2:30	3:30	4:30
India-Shift 2	5:30	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30	0:30	1:30	2:30	3:30	4:30

Production Support - Timeframe

	AM												PM											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
UK Work Hours																								
Cognizant Onsite (UK)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
India-Shift 1	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30	0:30	1:30	2:30	3:30	4:30	
India-Shift 2	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30	20:30	21:30	22:30	23:30	0:30	1:30	2:30	3:30	4:30	

- Most production support projects work in “Follow-the-Sun” Model, where 24*7 support is provided by Onsite-Offshore model. When offshore support ends (Sunset in India), onsite support starts (Sunrise in US/UK) and vice versa
- Thus, there is a Handshake between Onsite and Offshore or between two consequent shifts in Offshore during the shift overlapping period. The Handover-Takeover process happens during this overlapping period.
- Shift Handover documents are maintained and updated and handed over to the next shift associates so that they can continue the production support comfortably

Service Level Agreement

- **Service Level Agreement (SLA)** is an agreement within the terms of contract between the service provider and its customer to define the levels of service formally, to measure the quality of services delivered as well as the provider's capability and performance in providing those services.
- SLAs are designed to create a commonly agreed understanding about services, priorities and responsibilities.

SLAs can be defined at various levels of the engagement such as:

Customer Based SLA: This is defined between the customer and the service provider covering all the services customer uses.

Service Based SLA: This is defined for the services provided to all types of customer.

Organization Based SLA: This is defined by an organization for the services provided to all types of customer.

Multilevel SLA: This is defined at different levels each addressing a different set of customers for the same services.

Vendor Based SLA: This is defined between the service provider and the vendor to support the customer SLA.

SLA for Severity Levels - Sample

- SLAs are designed to meet specific business objectives of the users. These are addressed through the use of severity level definitions. Each severity level is tied to a response time and resolution time for providing a workaround or permanent resolution depending upon the criticality of the business need and its impact.
- The number of severity level definitions depends upon the number of stakeholders, business needs and professionals. Typically, 4-6 levels are recommended. Too few levels will result in having to prioritize the problems within a severity level. Too many levels will result in difficulty differentiating between levels and cause confusion when assigning severity levels.
- Severity definitions can be agreed upon within the business hours or 24 x 7 or both. Severity definitions can also be based on the type of the service provided.

Service Level Agreement - SLA

Service Level Agreements are generally defined as follows:

Severity	Initial Response Time	Restoration Time	Resolution Time
1	15 mts	2 Hrs	4 Hrs
2	15 mts	4 Hrs	8 Hrs
3	1 Hr	16 Hrs	32 Hrs
4	2 Hrs	24 Hrs	40 Hrs

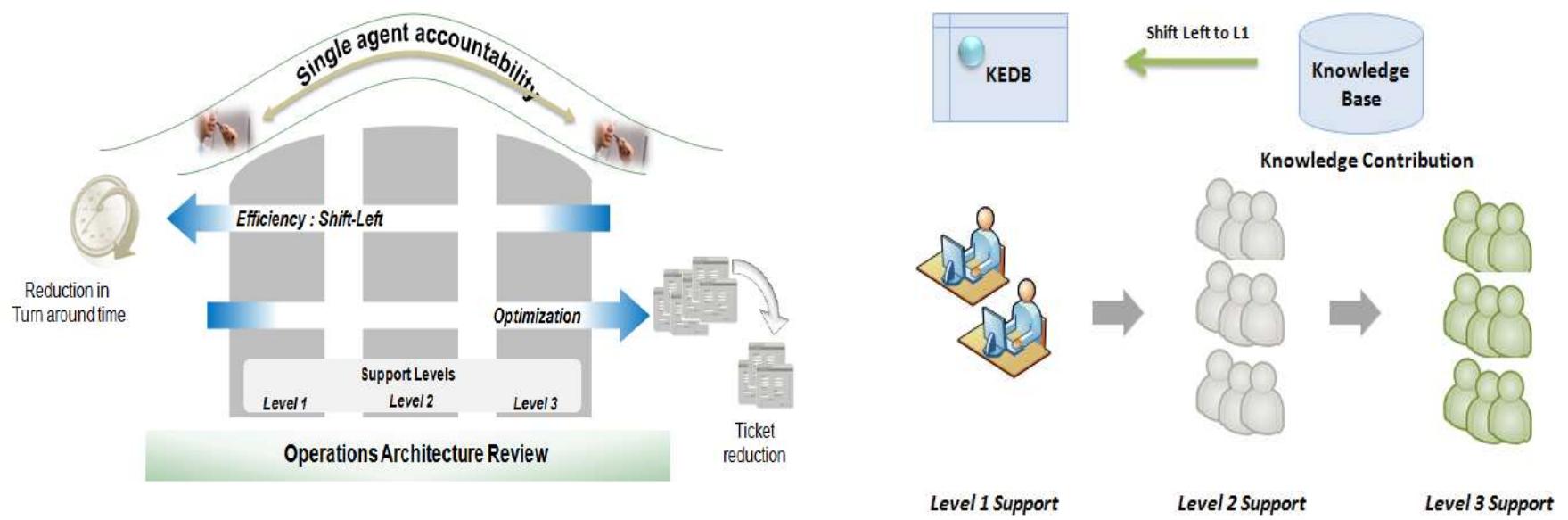
These are examples and can vary per the engagement needs

SLA Compliance and Breaches

- SLAs are defined for Response Time, Restoration Time and Resolution Time
- If the ticket is responded/restored/resolved within the defined timeframe, it is considered as “SLA Met”
- If the ticket is not responded/restored/resolved within the defined timeframe, it is considered as “SLA Miss/SLA Breach”.
- Along with the SLA timeframe, Expected SLA Met% is also defined in the contract and is calculated for a week/month. It varies from project to project and is likely to be between 95% to 100%.
- $\text{SLA Met\%} = (\text{Number of Tickets which met SLA}/\text{Total No of Tickets}) * 100$
- When the Actual SLA Met % falls below the Expected value, Cognizant has to pay penalty to the Customer as defined in the Penalty Clause in the Contract

Shift Left Methodology

- Level 2 and Level 3 teams should add/update entries in KEDB / KB for all the issues that they resolve, transferring the knowledge to the LEFT so that the L1 team can actively use KEDB to take up similar issues in future. This is called Shift Left Methodology.
- Effective KEDB/KB usage results in improved First level resolution resulting in Faster turn around of similar tickets and improved customer satisfaction
- Cost efficiencies gained through Operational analyst working in L1 layer instead of Technology experts



Dos of Production Support

-  Gain sufficient knowledge to handle production support and be confident
-  Look at the issue from the user's perspective and understand its impact towards the business.
-  Talk to the user if the ticket information is incomplete/insufficient
-  Reason out WHY and HOW the issue can be resolved
-  Follow the standard mailing format, keeping the contents simple and non- technical
-  Adhere to mailing etiquettes while composing e-Mails(e.g. Meeting requests, Out of office replies etc..)
-  Update support tickets with all the relevant information in the ticketing tool no matter how trivial it is
-  Any email from Managers or Business about the status of a ticket should promptly be addressed
 - keeping the leads in loop
-  All data update requests has to be double checked. Lead / Peer has to review the queries for data update
-  Get information from the developers of the newer to-be released objects in order to handle support for them, prior to release.
-  Check the released objects and confirm to RM team, post release.
-  Share knowledge to your juniors as you gain experience, so that Production support goes on without being person dependent
-  Follow Shift Handover-Takeover procedures promptly

Don'ts of Production Support

- ✖ Make assumptions
- ✖ Give way to SLA Breaches, as they have Penalty Clauses attached
- ✖ Fix data without approval
- ✖ Refresh any database/program in QA without approval
- ✖ Dump/ignore jobs while handling call before analyzing the actual cause
- ✖ Continue to retain any ticket in 'Pending Confirmation' even after the user has come back with a clarification
- ✖ Compromise on quality in a race to solve more tickets
- ✖ Hesitate to express any minor or major issue with your supervisor at any point of time
- ✖ Ignore any mail communication from Leads/Managers
- ✖ Put the ball in others court (between teams)
- ✖ Shy away from your responsibilities
- ✖ Be over confident
- ✖ Share the FTP user ID/passwords, application ID to anyone through mail/phone, Sametime chats – Security Violations
- ✖ Do not take print outs of Client data

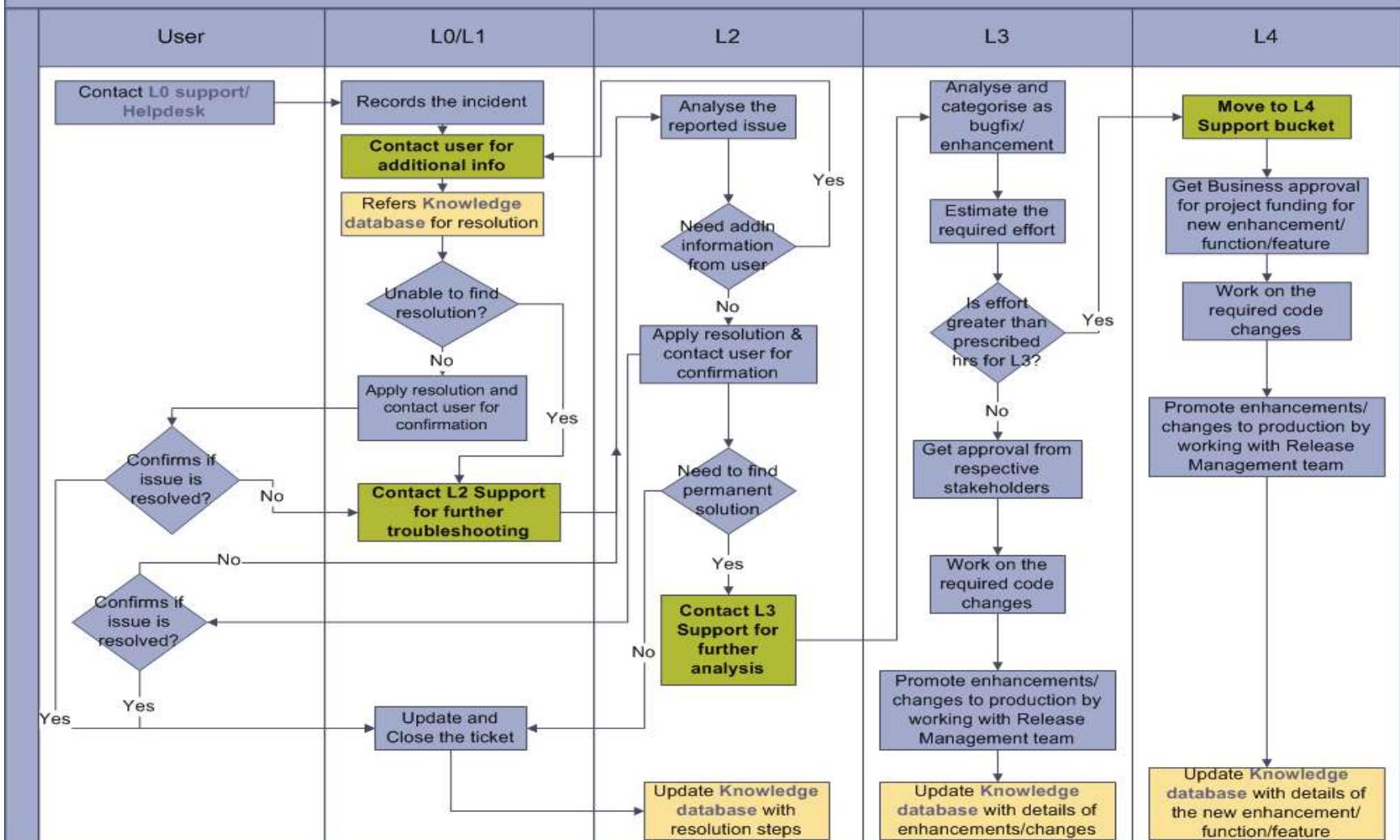
AVM Engagement Etiquettes



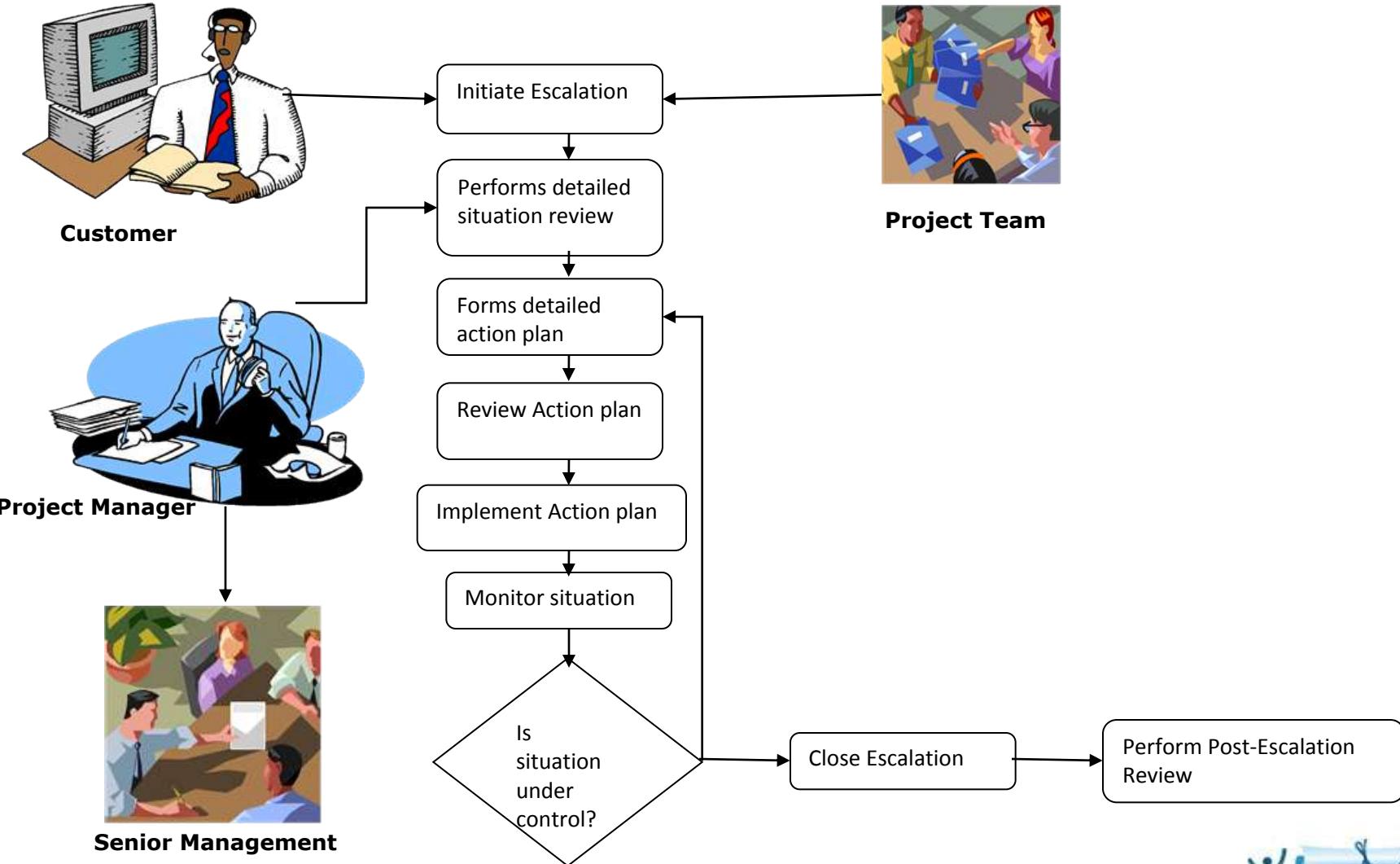
- Please check / update the knowledge repository for each and every task you are working
- Please complete Activity Tracker, ESA timesheet and other tracker sheet on time always
- Stick to your shift schedules, if any and be punctual
- Any activities which are out of scope as per the service catalogue need to be brought to management attention so that those could be deliberated and addressed after discussion with appropriate stakeholders. When in doubt, ASK YOUR LEADS!
- If you think you are spending more time on any project task, please consult your lead immediately to get advise on the same
- Please accept all project meeting invites appropriately and attend the meeting without any delay. If you are rejecting any invite, please update the requestor with proper reasons and seek for schedule change well in advance. Consult your lead for all client related meeting invites before you reject.
- Please DO NOT forward any official emails to your personal email ids
- Please take print outs only if it's really necessary
- Plan your leave and inform your supervisor well in advance

Functional Escalation Process

Integration between Various Support Levels



Hierarchical Escalation Process





What is Backlog Management?

- With newer tickets coming in, the older ones can take a back seat and Backlog Management Process plays vital role in resolving the backlogs and clearing the queue
- Tickets get queued up as Backlog for various reasons:
 - Support Team is working on the analysis/troubleshooting and not yet diagnosed the cause/fix
 - Support doesn't have necessary access to address the ticket and is waiting for the access to be granted
 - Waiting for information/confirmation from requestor indefinitely
 - Waiting for resolution/inputs from third party vendor or yet another assignment group
 - Volume of tickets have increased significantly and the support team is not resourced enough to handle the increasing volume

Reporting in AVM



- Reports are one of the crucial deliverables of an AVM project. The reports can be shared in various formats (MS Excel, PowerPoint, Word) or they can be shared online via tools like Service DART.

The frequency of the reporting also varies, depending on the customer requirement. The most common frequency of reporting are:

- Weekly
 - Monthly
 - Yearly
- The reports will measure the services delivered by Cognizant against the baseline and highlights the achievements, risks involved in the support during that report period.

For example: The weekly report will contain the service measures, achievements, risks and its mitigation actions for that week.

In the similar way the monthly report will be the cumulative reports of weekly data. There are cases the weekly and the monthly report may differ in the reporting data based on the customer requirement.



Why are reports critical ?

- Application support is one of mission critical activity we perform for the customer and there may be various services we provide to the customer. Find below few of the services we provide to the customer (based on ITIL terminology):
 - Incident management
 - Problem management
 - Change management
 - Availability management
 - Capacity management
- Each of these services are interlinked and the issue on one of the services will affect the other. The reports will give us early warnings and help us to discover any smallest degradation of a particular service. The earlier the issue is discovered and solved, the better it will avoid any major loss for the Customers & Cognizant.
- The reports also help Cognizant Senior Management to "measure" the services performed by Cognizant and also help to plan for the future support. These reports also serve as references while making decisions for other similar support engagements



How services are measured?

Different ITIL services are measured differently. Please find below few measures of services:

Incident Management:

- Number of tickets closed during the reporting period by priority
- Number of pending tickets during the reporting period by priority
- Number of tickets reopened during the reporting period by priority
- Reports on SLA Adherence and SLA Trend

Problem Management:

- Number of new problem tickets created during the reporting period
- Number of RCAs (Root Cause Analysis) delivered
- Number of RCAs rejected

Change management:

- Number of changes successfully implemented during the reporting period
- Number of changes rolled back from Production environment during the reporting period

Sample Monthly Dashboard



Attached below is a sample monthly dashboard. This dashboard will be produced and delivered every month to the customer. This dashboard measures the service performance for that reporting month.



Monthly
Dashboard Sample

ServiceDart Tool – Data Analytics and Reporting Tool that provides comprehensive graphical and analytical reports which can be used for client reporting. ServiceDart Tool link – <https://servicedart.cognizant.com>

Note – Click on the PDF to view it with separate window (take ALT & TAB)

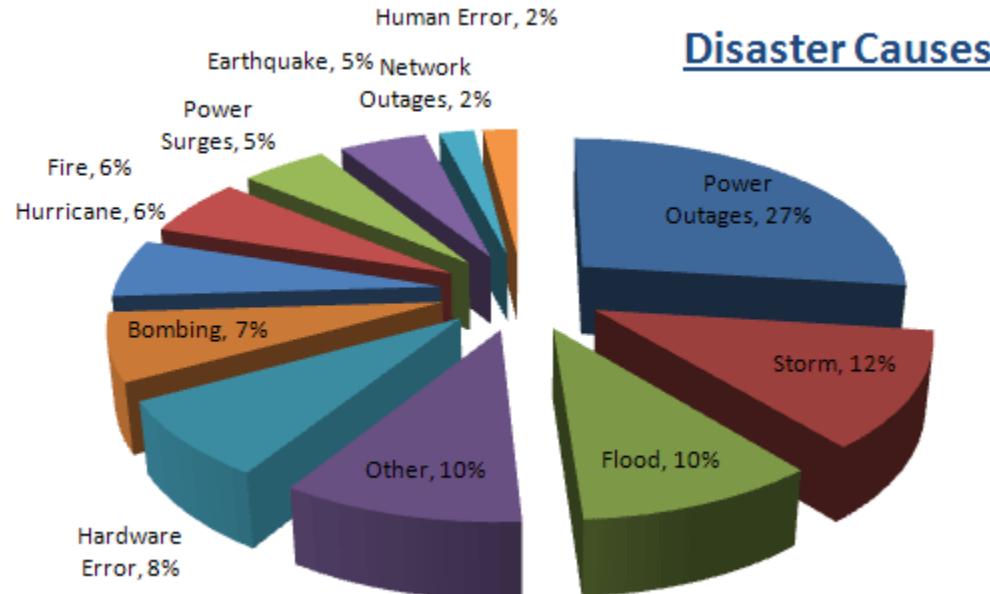
Crisis and its Causes

- Crisis is defined as a time of intense difficulty, trouble, or danger, when a difficult or important decision must be made with respect to client business
- Crisis situations may occur as a result of internal factors such as a production system outage, product failure or faulty decision making, and often involve the need to make quick decisions on the basis of uncertain or incomplete information



Types of Crisis

- **Organizational Disasters** are such as social or economic disasters within the organization or the industry that may lead to a crisis situation. For instance, IT industry recession
- **Environmental Disasters** include political or geographical disasters such as fights between individuals or Government or other groups to win acceptance of their demands or expectations. For example Terrorist attacks, Bomb blasts, curfews, strikes.
- **Natural Disasters** include earthquakes, volcanic eruptions, tornadoes, hurricanes, floods, landslides, chemical spills, Tsunamis, Storms, Drought that threaten life, property and the environment.



Crisis Management



- Crisis Management is a continuous process involving preparation, response, recovery and doing preventive mechanism. Similar to risk handling, crisis can also be categorized and understood based on the impact and occurrence before coming up with a contingency plan
- Crisis Management includes the development of plans to reduce the risk of a crisis and the implementation of these plans so as to minimize the impact of crises and assist to recover from them.



Dos and Don'ts during Crisis



■ Dos:

- ✓ Be thoroughly aware of the Business Continuity Plans in your project
- ✓ Get to know from your leads of any previous outages/crisis and know how it was handled
- ✓ Know and understand the crisis issue clearly
- ✓ Clearly communicate the crisis information to your next level in the hierarchy
- ✓ Act as per instructions given by your lead, to mitigate the risk.
- ✓ Provide periodic updates to your lead and if required to clients too on the progress of recovery

■ Don'ts:

- ✗ Do not panic
- ✗ Do not delay to communicate/act
- ✗ Do not perform activities on your own which you are unsure of, like restarting a production job
- ✗ Do not assume the impacts
- ✗ Do not work on trivial things



Contingency Planning

- Contingency Plan is a plan devised for a specific situation when things could go wrong
- Preparing Contingency plans in advance, as part of the Crisis Management is the first step to ensuring a project is appropriately prepared for a Crisis.
- The plan should clearly stipulate the duties of all members in the team during the time of crisis
- The contingency plan should contain information and guidance that will help decision makers to consider not only the short-term consequences, but the long term effects of every decision

Business Continuity Planning (BCP)

- BCP is a planning that helps in ensuring business continuity whenever a disaster or a crisis situation arises
- BCP is essential for an organization to ensure continuity of its business operations. BCP can also be prepared at Account/Project Level to ensure continuity of providing services to the customer in the event of a disaster.
- Sometimes BCP is considered same as Disaster Recovery Plan(DRP), where as it is not. DRP is oriented towards recovering after a disaster where as BCP indicates how to continue doing business until recovery is accomplished. Both BCP and DRP can be combined together for convenience but presence of both is very important
- BCP has the following Lifecycle phases: Analysis, Design Solution, Implementation, Testing and Acceptance and Maintenance

What is a Risk?

Risk can be simply defined as a situation involving exposure to danger, loss or anything which might provide undesirable results if they are not acted upon in a timely manner.

Two characteristics of risk:

- Uncertainty – Risk is a potential problem. It might happen or might not happen, that is, there are no 100% risks (those, instead, are called constraints)
- Loss – the risk becomes a reality and unwanted consequences or losses occur

Difference between Risk and Issue:

Risk concerns future happenings. Risk is an event of future, if it occurs, may impact project objectives in negative manner.

The key point is that the risk event has not happened yet.

An issue is a result of an event that is happening right now or has already happened. The key point is that issue event has already happened.



Types of risks in IT and Frequently occurring Risks



Project risks

They threaten the project plan

If they become real, it is likely that the project schedule will slip and that costs will increase

Technical risks

They threaten the quality and timeliness of the software to be produced

If they become real, implementation may become difficult or impossible

Business risks

They threaten the viability of the software to be built

If they become real, they jeopardize the project or the product

Frequently occurring risks:

- Tasks completed too late
- Changing estimates
- Customer requirements not stable
- Conflicting requirements
- Unanticipated technical difficulties
- Resources available too late
- Problems to acquire resources
- Problems to acquire access
- Lack of skills or knowledge

- Other department don't deliver their products or services
- Working environment not appropriate
- Dependency on other projects
- Unknown development tools
- Inappropriate development tools
- Leakage of unique knowledge
- Disturbance of current business processes

Questions



AVM Service Line

You have successfully completed -
AVM Guidelines



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

AVM Roles and Responsibilities

LEVEL – LEARNER





Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Overview

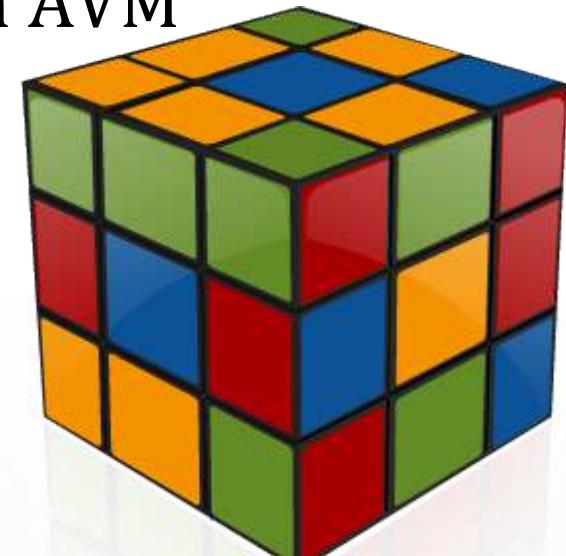


This session is for the Entry Level Trainees to help them understand the various roles in AVM and their responsibilities along with AVM Career Lattice



Objective

- Career Tracks in AVM
- Elements in AVM Career Lattice
- Structure of Learning Plan
- Illustrative Example of LP
- Skill Maps and Development Plans in AVM
- Key Steps in Development Planning
- Roles and Responsibilities in
 - SD, SMO, SME
- What's in AVM for YOU?



Career Tracks in AVM

GRADES	CORE SERVICE DELIVERY ROLES		SERVICE MANAGEMENT ROLES					SME ROLES	SERVICE TRANSFER										
	ONSITE	OFFSHORE	ONSITE AND OFFSHORE					ONSITE AND OFFSHORE	ONSITE AND OFFSHORE										
AVP +	AVM SBU Head																		
SD	Delivery Director		Service Transformation Director					Functional SME											
D																			
AD	Program Manager	Delivery Manager	Service Transformation Manager					Application SME	Technology SME	Transition Director									
SM										Transition Manager									
M	Service Manager		Incident Manager	Problem Manager	Change and Deployment Manager	Asset and Configuration Manager	Knowledge Champion	CSI Manager	Transition Lead										
SA	Application Lead																		
A	Sr. Application Analyst																		
P/PA	Application Analyst (L2 and L3)																		
PAT																			
PT /	Service Operations Analyst (L0 and L1)																		
PAT 2.0																			

Elements of AVM Career Lattice

ELEMENTS
OF THE
AVM
CAREER
LATTICE



- ▶ **Career framework** for AVM SBU
- ▶ **4 Career Tracks (Core, SMO, SME, TO)**
- ▶ **23 AVM roles overall, 9** in Service Delivery, **8** in SMO, **3** in SME and **3** in TO
- ▶ **4 Skill Clusters – Technical, Functional, Behavioral, Domain**
- ▶ **4 Levels of Proficiency** for each skill – **Learner, Practitioner, Specialist & Expert**
- ▶ **Role, Skill** descriptions
- ▶ **Performance Goals** and **Standards**
- ▶ **Career Progression** Criteria

Structure of Learning Plan



Role-Based Learning Plan: Default list of mandatory and optional courses identified for each AVM SBU role under the Functional, Domain, Technical and Behavioral categories

Each course defined in the LP is defined by the following primary attributes

1. Course Name
2. Course Description
3. Course Category
 - I. Functional
 - Process Track
 - Platforms & Tools Track
 - Governance Track
 - Business Development Track
 - II. Domain (BU specific)
 - III. Technical (Java, MF, .NET etc.)
 - IV. Behavioral
 - Personal
 - Leadership
4. Mandatory/Optional
5. Primary/Secondary Competency
6. Proficiency
 - Learner
 - Practitioner
 - Specialist
 - Expert
7. Prerequisites Course code of prerequisite courses
8. Mode of Training
 - eLearning
 - Video Logs
 - Podcasts
 - Nano Sessions
 - Classrooms
 - Webinars
 - Gamification
9. Duration of the course
10. Time to complete the course
 - Role specific attribute specifying time by which the course needs be completed (Days, Weeks, Months)
11. Assigned by
 - Default (Auto assigned as per role)
 - Supervisor
 - Self
12. Learning Credits



Illustrative Example of Learning Plan

- Learning Plan of Application Lead

SKILL CLUSTER	SKILL NAME	REQUIRED/ DESIRED	PROFICIENCY LEVEL	TRAINING
FUNCTIONAL	CUSTOMER EXPECTATION MANAGEMENT	Required	Practitioner	<ul style="list-style-type: none"> Handling Conflict Level 2: Problem Solving and Decision Making (Onsite)
	DATA ANALYSIS AND REPORTING	Required	Practitioner	<ul style="list-style-type: none"> Data Analysis tool in AVM - Service Dart Six Sigma Yellow Belt Lean (eLearning)
	DOCUMENTATION	Required	Specialist	<ul style="list-style-type: none"> Advanced Document Features in Word 2007
	ESTIMATION	Required	Specialist	<ul style="list-style-type: none"> Estimation Techniques for AVM Estimation Portal Introduction to Project 2010
	PROCESS DEFINITION AND IMPLEMENTATION	Required	Learner	<ul style="list-style-type: none"> DAG Audit Framework Managed Services - Assessment framework for AVM Engagements
	SERVICE MANAGEMENT	Required	Practitioner	<ul style="list-style-type: none"> ITIL version 3 Certificate in IT Service Management ITIL: Problem and Change Management Governance Services & Security services Managed Application Services - An Overview Managed Production Services - An Overview Workshop: Change Request Management Practitioner ITIL V3 Intermediate - Life Cycle Modules
	TOOLS KNOWLEDGE	Required	Practitioner	<ul style="list-style-type: none"> C2 Practitioner - Application Maintenance
	MANAGEMENT BY METRICS	Desired	Practitioner	<ul style="list-style-type: none"> Service Based Metrics AVM Metrics Management - C20
	PROJECT MANAGEMENT	Desired	Learner	<ul style="list-style-type: none"> Improving the Process of Service Delivery (UK)

Skill Maps and Development Plans in AVM



LP completion a must for present role

CAREER PROGRESSION is subject to factors such as

- duration in the role
- completion of mandatory training
- potential to handle next role
- preparation for next role

1. Mandatory training
2. Desirable training

Technical Skills

Includes Cognizant Certified Professional (CCP) certifications, brain-bench assessments, custom assessments and external certifications

Functional Skills

Internal Certifications Software Life Cycle, Lean.
External certifications such as ITIL, Six Sigma, PMI, etc...

Behavioral Skills

Includes learning programs relevant to role (RSM) automatically included in Learning Plan.

Domain Skills

Includes Cognizant Certified Professional assessments (L0, L1 CCPs) which associates need to choose based on SBU/project and add to Learning Plan.

Key Steps in Development Planning



UPDATE OPERATIONAL ROLE

- Competencies & Assessments mapped to Operational Roles
- Supervisor tags direct reports to AVM SBU Roles



CREATE INDIVIDUAL LEARNING PLAN (LP)

- Associate generates learning plan in MyLearning Portal
- Learning defined by skills for the Role (RSM) , + mandatory programs
- Associates customizes their learning plans by choosing courses from various sections, work with Supervisor



▲ LEARN, APPLY TO GAIN PROFICIENCY

- Associate completes learning plan (tracked by MyLearning Portal)
- Associate applies learning on the job and overtime gains proficiency levels
- Role holder must achieve the required proficiency levels (as defined in RSM)
- Completion of Role Based Training is one of criteria for progression (but not the only condition)



▲ COMPLETE ASSESSMENTS

- Associate can view the recommended assessments for his/her role in the "Recommended Assessments" tab of MyLearning Portal
- Associate can enroll and schedule the assessment or update completion of an external certification



Service Delivery Roles and Responsibilities



► Service Operations Analyst

Responsible for resolving known (L0 / L1 tasks) incidents, standard requests, access setup, mail box monitoring, job monitoring, availability monitoring, daily health checks to ensure availability of applications

► Application Analyst

Responsible for resolving unknown incidents and ad-hoc requests and is required to handle operational changes and functional enhancement requests

Participate in identifying problems, perform root cause analysis and contribute to knowledge base

Participate in activities like Release acceptance and application Continuity Support and provide end of term (Quarter / Year) Support to the project

► Senior Application Analyst

Responsible for incident resolution and support of high complex issues ; addressing ad-hoc requests

Responsible for rollout of operational changes and functional enhancements as per schedule

Manages and develops team capability for resolving complex incidents

Preparation of status reports for Customers and internal stakeholders

Service Delivery Roles and Responsibilities (Contd.)



► Application Lead

Leads a team, managing one or more application portfolios

Ensure timely restoration of services and fulfillment of business requests thereby meeting service level commitments.

Take responsibility to continuously improve service, in the portfolio managed.

► Service Manager

Responsible for service delivery and maintaining healthy portfolio as per contract

Accountable for the overall service management within the project / LOB

Responsible for achieving CSI, innovation and Transformation within the project / LOB

Accountable for managing the people within the LOB

► Service Delivery Manager

Accountable for service delivery as per contractual SoW for the engagement

Responsible for managing cost of delivery by using efficiency levers

Works closely with program management / leadership team for improved customer satisfaction

Responsible for delivering Value to customer with CSI & Transformation initiatives

Coach Service managers / service leads for all key roles

Enhance AVM talent capability by continually improving learning health score

Service Delivery Roles and Responsibilities (Contd.)



Program Manager

- Responsible for managing relationship with client point of contact as well as other stakeholders involved.
- Responsible for proactively managing customer expectation and handling customer escalations.
- Responsible for managing Service Governance process in collaboration with Account team and delivery team.
- Responsible for managing customer driven initiatives
- Works closely with account management / leadership team for improved customer satisfaction
- Responsible for Transformation driven Value Delivery to customer (via Business transformation, Maturity to next level)

Delivery Director

- Accountable for global service delivery of multi tower engagements / multiple engagements
- Accountable for Managing costs for efficient global delivery across multiple engagements / multi tower engagements
- Works closely with account management / leadership team for improved customer satisfaction
- Responsible for Transformation driven Value Delivery to customer (via Business transformation, Maturity to next level)
- Responsible for cross pollination of best practices across engagements (including industry best practices)

Service Management Roles and Responsibilities



Incident Manager

Acts as a single point of contact from a customer perspective for incidents and is responsible for service restoration.
Establish incident management process and ensure effective deployment of the same
Performs audits and initiates service improvements.

Problem Manager

Owner of the problem management process and ensures effective deployment of problem management process.
Responsible for root cause analysis and subsequent permanent fixes thereby reducing influx. Also, ensure Known Error Database is maintained up-to-date

Change & Deployment Manager

Owns the Change and Release Management process and be the Single Point of Contact for all changes and associated releases; Also responsible for coordinating between multiple functions for prompt handling of all changes within the environment.

Asset & Configuration Manager

Responsible for maintaining information about Configuration Items required for delivering IT services; Manages IT assets through its lifecycle (receiving, tracking, maintenance and disposal).
Responsible for maintaining a logical model (CMDB- Configuration Management Database and/or an asset management system), containing the components of the IT and Infrastructure and their relationships.

Service Management Roles and Responsibilities (Contd.)



► Knowledge Champion

Single point of contact for establishing the knowledge management process ; Planning ,deployment, monitoring, review and implementation of improvements to KEDB

Ensure that the knowledge management process is followed effectively within the Delivery organization.

► CSI Manager

Responsible for the overall planning and implementation of service improvements; Govern improvement projects from creation to closure and deliver cost benefits

► Service Transformation Manager

Accountable for the overall planning and implementation of the transformation opportunities identified; Govern transformation projects from creation to closure and deliver cost benefits

Responsible for engagement level service management office

► Service Transformation Director

Accountable for global service management ownership and process definition; Responsible for transformation and associated value articulation

SME Roles and Responsibilities

Application SME

A specialist in the application, gained expertise working in the application for several years; has in-depth knowledge of the application architecture, functionality and the underlying modules / components. Responsible for elucidating application functionality to the team, guiding the team on complex issues, reviewing the deliverables, validating business requirement against application architecture, preparing the design document for application related changes, providing estimation of work requests, maintaining knowledge management framework and provide escalated support for the application.

Functional SME

A functional expert has end-to-end view of the functionality supported by an application portfolio in a given line of business. Participates in business initiatives developing business requirements, performs analysis on the impact of change across the application portfolio, prepares the design for the project and also supports in the testing lifecycle of the projects. Provides support for tickets escalated on the applications that are functionally complex, participates and provides input in the Change Advisory Board and Release Control Board meetings.

Technology SME

Has in-depth understanding of the technology with specialization on architecture and design. Responsible for providing technical expertise while executing some of the specialized services like technology / design assessment, technology upgrade / migration and reengineering & modernization initiatives. Also, is responsible for anchoring the technology transformation agenda for the customer

What's in AVM for YOU?

EXPERTISE
OPPORTUNITIES
GROWTH
INNOVATION
STABILITY
ALL-ROUND
DEVELOPMENT
EXPOSURE

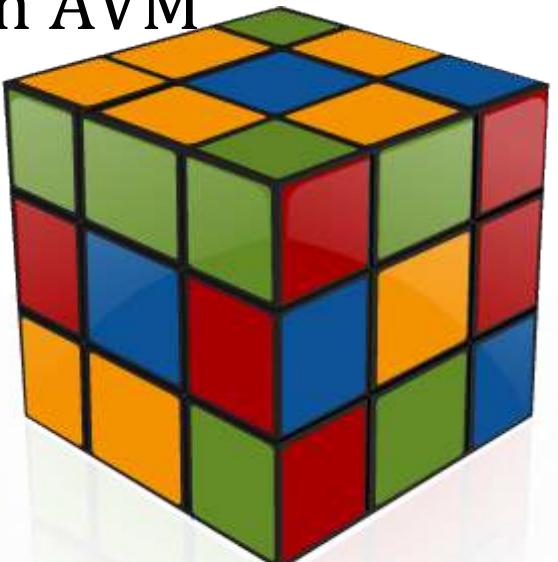


1. Structured capability building to help you become an AVM expert, valued across the industry
2. Defined career path; presents various roles and career choices available, clarifies how to make transitions
3. You perform a role with appropriate proficiency in required skills
4. Fulfils your developmental needs; Help you refine yourself for the present, and preparing you for the next role over time
5. Offers job rotation opportunities for you in your present track, between AVM tracks and across service lines
6. Objective and transparent promotion process that uses the criteria of performance, Potential (readiness) for the next role, Time in the present role
7. Creates a pipeline of leaders who are the AVM SBU



Summary

- Career Tracks in AVM
- Elements in AVM Career Lattice
- Structure of Learning Plan
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- Skill Maps and Development Plans in AVM
- Key Steps in Development Planning
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AVM Service Line

You have successfully completed -
AVM Roles and Responsibilities



Change Log

Version Number	Changes made			
V1.0	Initial Version			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected

AVM Service Line

Batch and Online Processing

LEVEL – LEARNER





Icons Used



Hands on Exercise



Reference



Questions



Points To Ponder



Coding Standards



Lend A Hand



Summary



Test Your
Understanding



Objective



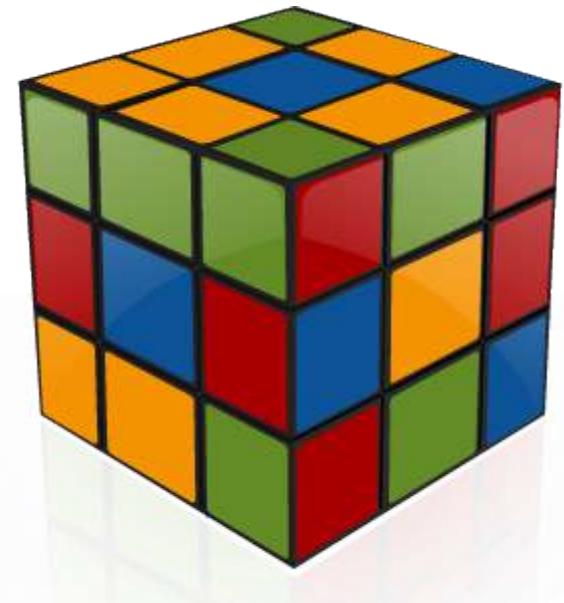
- The objective of this session is to help you understand the Batch and Online Processing and it's importance in Application Monitoring



Overview

After completing this chapter, you will be able to understand:

- Overview of Batch and Online Processing
- Difference between Batch Processing & Online Transactions
- Batch Processing
 - Batch Process in detail
 - Job Scheduler
 - Batch Job Flow
 - Batch Job Process Explanation
- Online Transactions
 - Online Transaction Flow
 - Online Transaction Process Explanation



Batch and Online Processing

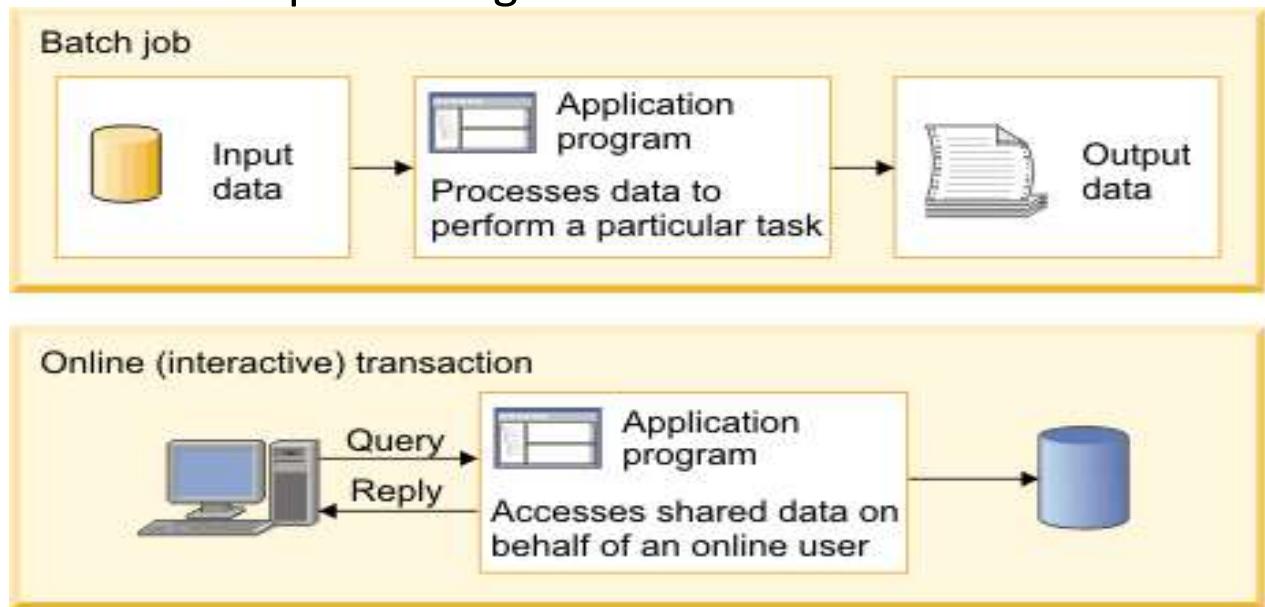
- Monitoring activity is part of support and it is required for any customer business availability /continuity.
- As part of monitoring activity, Application Batch job monitoring and Online job monitoring are important as we have been facing performance issues, while batch jobs are running. Like.. the jobs are taking long time to complete
- Batch Jobs are set up or scheduled, so they can be run to completion without manual intervention. Batch jobs are run at a specific interval/specific schedule. These jobs run for master file update or creating reports etc. the batch systems usually require access to data in a consistent state, free from online updates until the batch processing is complete.
- Online job processing occurs interactively with the user. Online processing that occurs interactively with the end user is referred as Online Transaction Processing (OLTP)

Batch Processing and Online Transactions



Batch applications are processed on the system without user interaction. A *batch job* is submitted on the computer; the job reads and processes data in bulk—perhaps terabytes of data—and produces output.

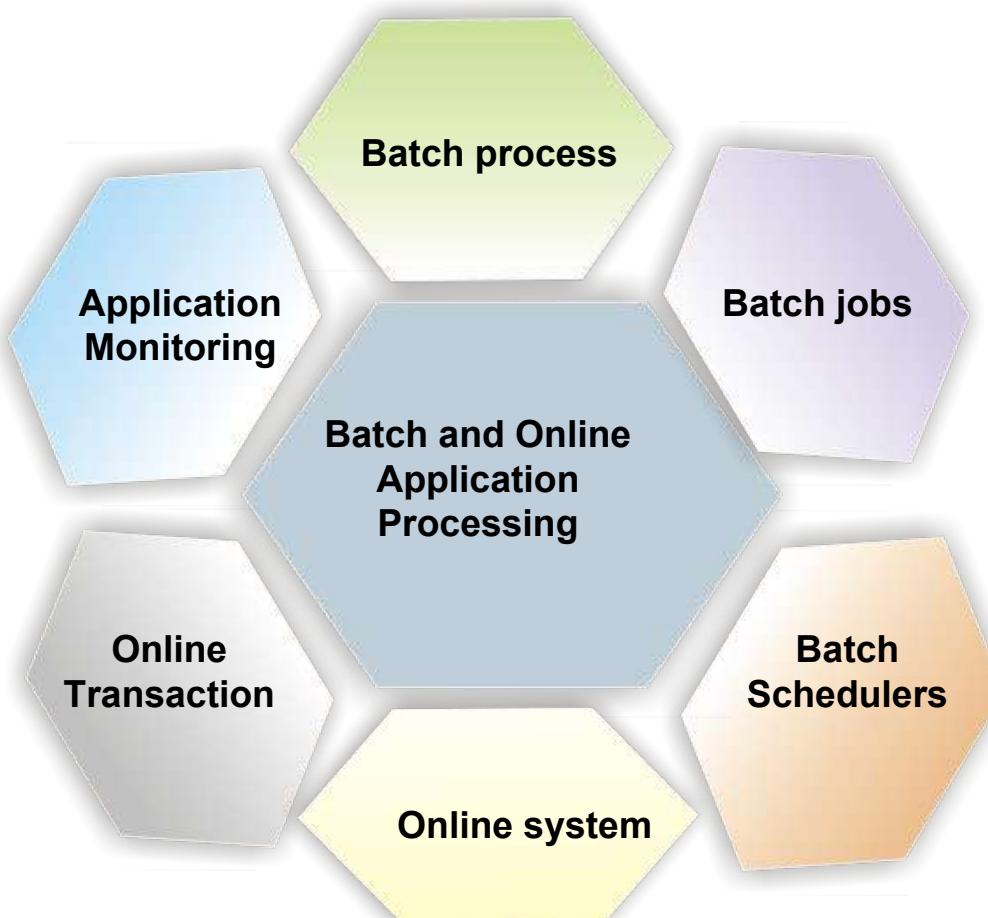
Transaction processing that occurs interactively with the end user are referred as Online Transaction processing.



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Batch and Online processing

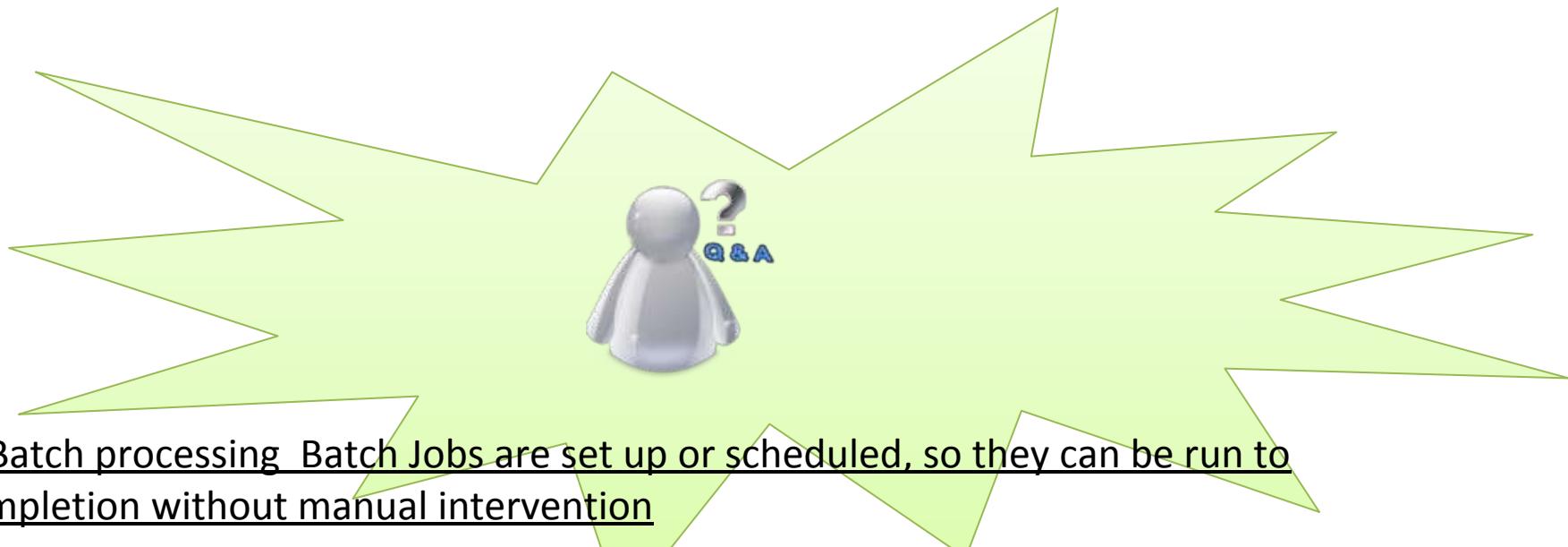
Batch and online processing session helps you to understand the key concepts of Batch Processing, Batch Monitoring, Batch Scheduling, OLTP – Online Transaction Processing





Check Your Understanding

Batch Processing – Online Transaction – what are these in simple terms?



Online job processing occurs interactively with the user and data update happens at the same time or within fraction of time, where the end user /customer can see the end results

Characteristics of Batch Processing

Batch Processes typically have the following characteristics:

- Large amounts of input data are processed and stored (perhaps terabytes or more), large numbers of records are accessed, and a large volume of output is produced.
- Immediate response time is usually not a requirement. However, batch jobs often must complete within a *batch window*, a period of less-intensive online activity, as prescribed by a *Service Level Agreement* (SLA).
- Information is generated about large numbers of users or data entities (for example, customer orders or a retailer's stock on hand).
- A scheduled batch process can consist of the execution of hundreds or thousands of jobs in a pre-established sequence.



Check Your Understanding

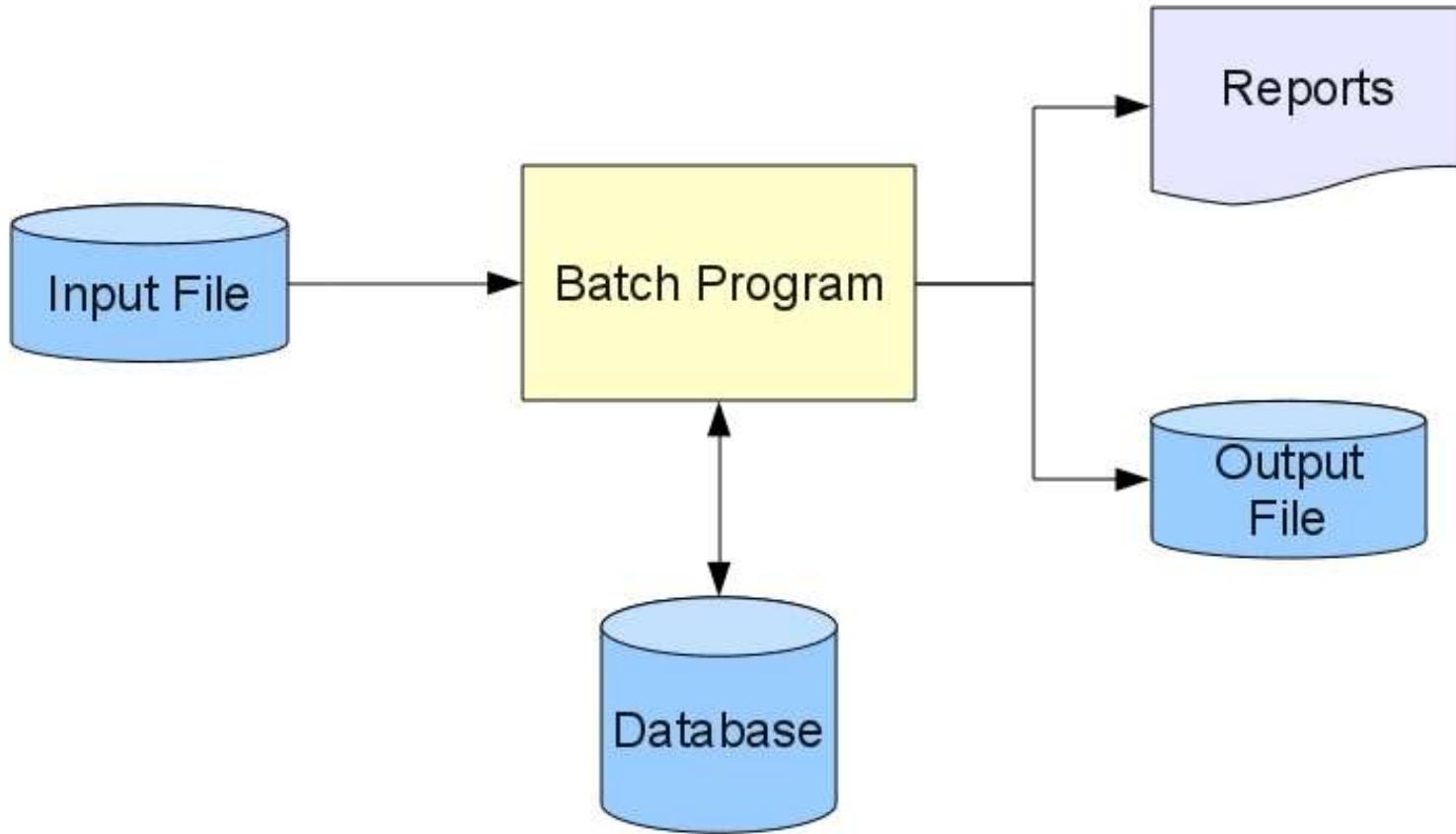
How does and why a Batch Process work?

Is it very easy to understand
or much complex?

- A scheduled batch process can consist of the execution of hundreds or thousands of jobs in a pre-established sequence – they run in sequence
- Batch jobs are processed in-order to process large amounts of input data and to update / report large amount of data (ie., where Immediate response time is usually not a requirement / where immediate results or update is not required)
- Support team should have knowledge on each job what does it process /update/interface (input and output of that jobs and respective impact of that job in case of abend)



Simple Batch Job flow



Batch Processing

Simple Batch job flow

- This is a simple batch job created using Application owned languages (COBOL, Java, RPG, SYNON)
- This job uses one batch application program ((in IBM Mainframe JCL)to process
- This job uses one/more input file(s) and one/more output file(s)
- This job uses file attributes to create outputs (reports)
- Once the job executes, it will generate two outputs
 - a reporting file about the status of processing logic
 - a flat file with the details from inputs.
- This job ends when all steps has been executed
- Sometimes, when program encounters error condition, the job terminates with ABEND.
- System ABEND are generated by OS and User ABEND are generated by programs.
- The return code indicates the result of processing of the job.





Check Your Understanding

What is a Batch Scheduler?

How does it function?



Job Scheduler Features

A *job scheduler* is a computer application for controlling unattended (no manual intervention is required) background program execution, commonly known as batch processing.

Basic features of Job scheduler:

- Help to define workflows and/or job dependencies
- Automatic submission of executions
- Automatic restart and recovery in event of failures
- Interfaces to monitor the executions
- Priorities and/or queues to control the execution order of unrelated jobs
- Automatic alerting and notification to operation team to take further actions if required



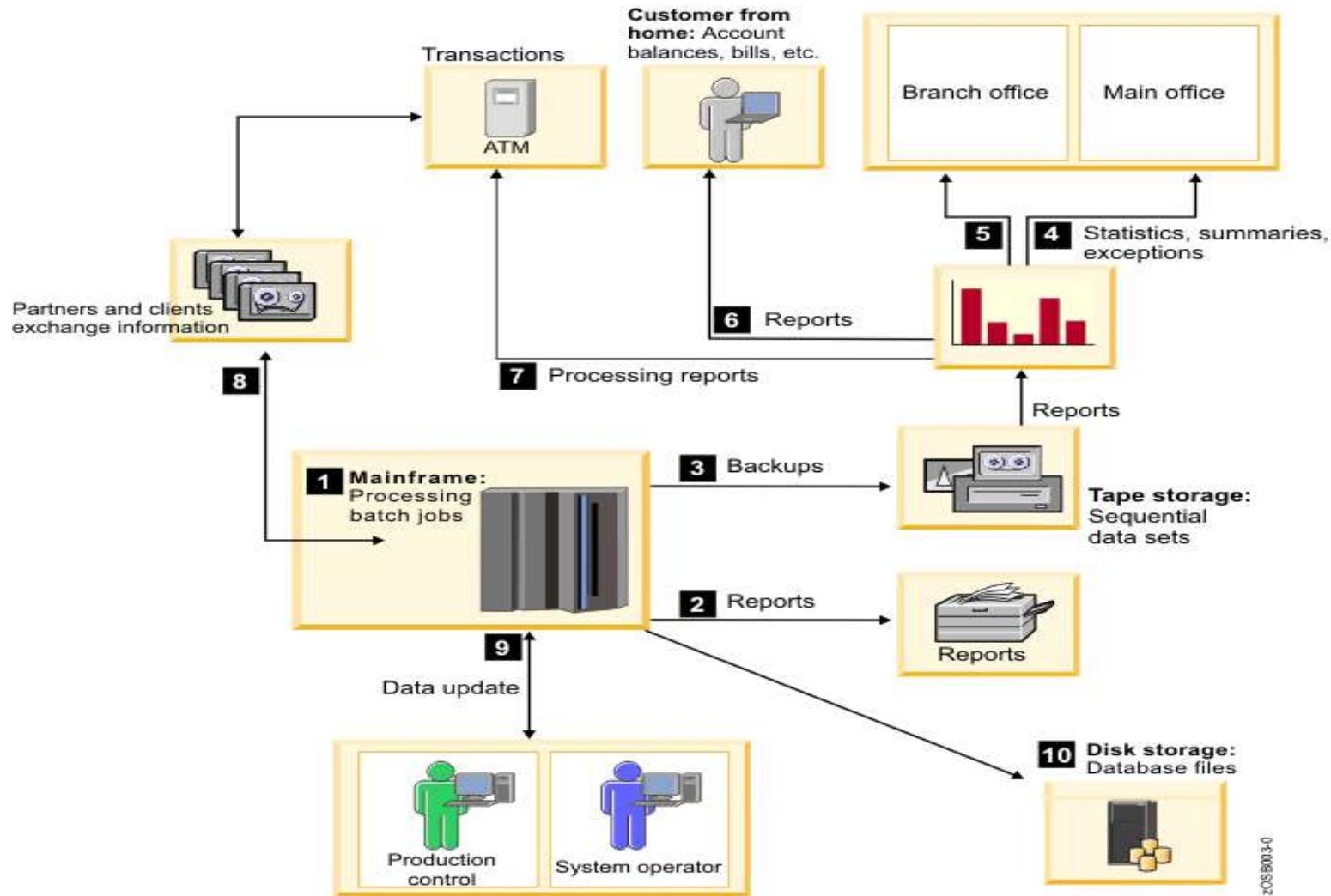


Check Your Understanding

How does Batch Process in an Application work?



Batch Application Process Flow



Batch Process Explanation

1. Numerous batch jobs run the programs / utilities as per scheduled time and read the data proceed by online jobs to create output data / reports
2. The batch jobs generate reports of business statistics
3. Backups of critical files and databases are made before and after the batch processing
4. Reports with business statistics are sent to a respective stakeholders for analysis
5. Reports with exceptions are sent to the branch offices for their corrective actions
6. Monthly account balance reports are generated and sent to all bank customers.
7. Reports with processing summaries are sent to the partner credit card company.
8. A credit card transaction report is received from the partner company.
9. In the production control department, the operations area is monitoring the messages on the system console and the execution of the jobs.
10. Jobs and transactions are reading or updating the database (the same one that is used by online transactions) and many files are written to tape (backup).



Check Your Understanding

How does Online Transaction work?



Simple Online Transaction Flow



Mainframe example:

Mainframes also allow for interactive or online transaction processing. Online transaction processing use online programs to allow a user to enter inputs and receive the response in real time.

These online systems also have JCL statements to control their execution. However, most of them are not classified as batch jobs. These are classified as z/OS system tasks because these are normally started from the system console by an operator. /user. They normally execute under operating system privilege and also are meant to execute while the system is running.

Most online systems have a control region that controls the traffic into and out of the system. Most of them also separate the data layer from the presentation layer. (For those using XML and SOA, does this sound familiar?).

3270 terminal





Characteristics of Online Transactions

Online transactions usually have the following characteristics:

- A small amount of input data, a few stored records accessed and processed, and a small amount of data as output
- Immediate response time, usually less than one second
- Large numbers of users involved in large numbers of transactions
- Round-the-clock availability of the transactional interface to the user
- Assurance of security for transactions and user data



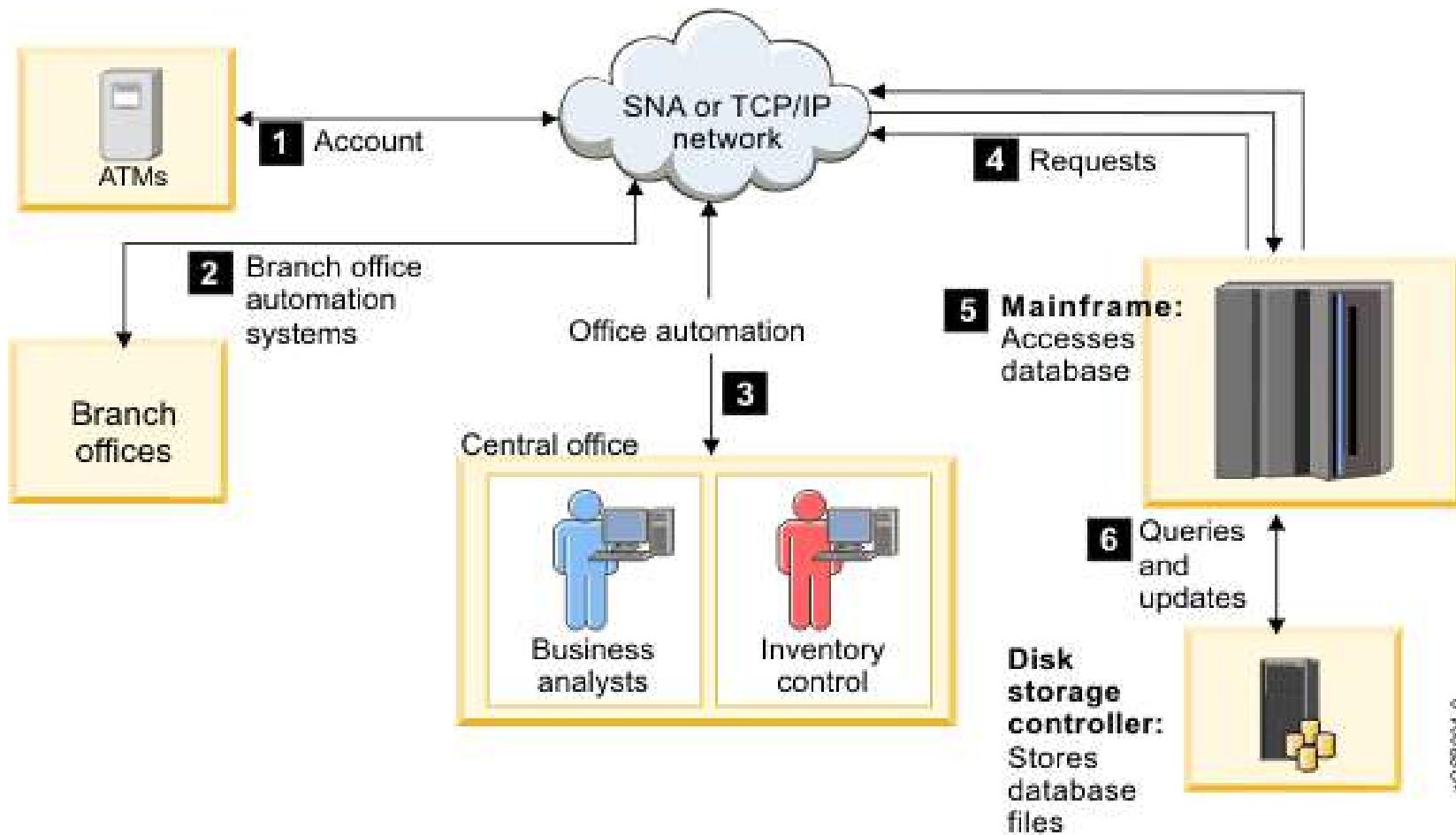
Check Your Understanding

How does the OLTP work in the Business Application?

Is it much complex or easier?



OLTP – Business Application Flow



Z039004-0

Online Process - Explanation



1. A customer uses an ATM, which presents a user-friendly interface for various functions: Withdrawal, query account balance, deposit, transfer, or cash advance from a credit card account.
2. Elsewhere in the same private network, a bank employee in a branch office performs operations such as consulting, fund applications, and money ordering.
3. At the bank's central office, business analysts tune transactions for improved performance. Other staff use specialized online systems for office automation to perform customer relationship management, budget planning, and stock control.
4. All requests are directed to the mainframe computer for processing.
5. Programs running on the mainframe computer perform updates and inquiries to the database management system (for example, DB2®).
6. Specialized disk storage systems store the database files.

Questions





Check Your Understanding

- What are the advantages in batch processing?
- In Batch processing where Batch Jobs are set up or scheduled, so they can be run to completion without manual intervention and are used to process /update huge data
 - Why do we need Job Scheduler?
 - Help to define workflows and/or job dependencies
 - Automatic submission of executions
 - Automatic restart and recovery in event of failures
 - Interfaces to monitor the executions
 - Priorities and/or queues to control the execution order of unrelated jobs
 - Automatic alerting and notification to operation team to take further actions if required
 - What does OLTP support?



Online job processing occurs interactively with the user and data update happens & at the same time or within fraction of time, where the end user / customer can see the end results

- What is the difference between Batch Process and Online Process?

In Batch processing where Batch Jobs are set up or scheduled, so they can be run to completion without manual intervention and are used to process /update huge data

Online job processing occurs interactively with the user and data update happens & at the same time or within fraction of time, where the end user / customer can see the



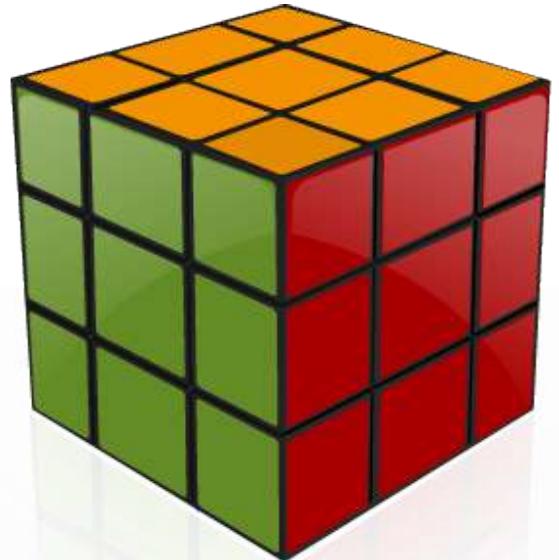
Summary

Batch Process handles large amount of data

Batch Monitoring can be accomplished via Batch scheduler

Online Transaction – Interaction between user and system

OLTP – Immediate response time is a basic need. Assurance of security for transactions.





Source



Links

- http://publib.boulder.ibm.com/infocenter/zos/basics/index.jsp?topic=/com.ibm.zos.zmainframe/zconc_batchproc.htm
- <http://www.conceptssolutionsbc.com/mvs-articles/37-ibm-mainframe/201-types-of-mainframe-processing>
- http://en.wikipedia.org/wiki/Job_scheduler

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AVM Service Line

You have successfully completed -
Batch and Online Processing



Change Log

Version Number	Changes made			
V1.0	Initial Version – K. Bharath Kumar			
V1.1	Slide No.	Changed By	Effective Date	Changes Effected
	ALL	Usha V.C	Dec-2013	