

Front Metrics Technologies Pvt. Ltd.

Capacity Management Policy, Process & Procedures Document



Front Metrics Technologies
Business IT Integration

Client:	Front Metrics Technologies Pvt. Ltd.
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GENERAL			
Description	This document establishes a Capacity Management process and procedures for Front Metrics Technologies.		
Purpose	<p>The purpose of this process is to establish a Capacity Management process for the Front Metrics Technologies Computing Division. Adoption and implementation of this process provides a structured method to ensure that the required capacity exists within the IT environment so that IT Services meet business requirements as documented in Service Level Agreements, and that this is provided in a cost-effective and timely manner.</p> <p>Note: The Capacity process can be triggered by many other processes. In the normal course of business, each service has a pre-determined capacity review cycle (usually annually, to coincide with the budget cycle), and the process executes according to that cycle.</p>		
Applicable to	<Enter Applicable Details>		
Supersedes	N/A		
Document Owner	<table border="1" style="width: 100%;"> <tr> <td style="width: 70%;">Front Metrics Technologies Pvt. Ltd.</td> <td style="width: 30%; text-align: right;">Capacity Manager</td> </tr> </table>	Front Metrics Technologies Pvt. Ltd.	Capacity Manager
Front Metrics Technologies Pvt. Ltd.	Capacity Manager		
Effective Dates	MM-DD-2011		

VERSION HISTORY			
Version	Date	Author(s)	Change Summary
0.1	12/28/2010	Front Metrics Technologies	Initial Draft Version
0.2	01/05/2011	Front Metrics Technologies	Added newly discovered information
0.3	01/26/2011	Front Metrics Technologies	Incorporated feedback from Workshop
0.4	02/09/2011	Front Metrics Technologies	Updates as a result of Core Team Review
0.5	02/17/2011	Front Metrics Technologies	Updates as a result of General CD Review
0.6	03/04/2011	Front Metrics Technologies	Further updates as a result of General CD Review

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INTRODUCTION

GENERAL INTRODUCTION

Capacity management ensures that the information technology processing and storage capacity is adequate to the evolving requirements of the organization as a whole in a timely and cost justifiable manner.

The benefits of an effective and efficient Capacity Management Process include:

- Assurance that IT resources are planned and scheduled to match the current and future needs of the business
- Provision of a Capacity Plan that outlines the IT resources and funding (and cost justification) needed to support the business
- Reduction in Capacity-related Incidents through pre-empting performance issues
- Implementation of corrective actions for capacity-related events
- Methods for the tuning and optimizing of the performance of IT Services and Configuration Items
- A structure for planning upgrades and enhancements and estimating future requirements by trend analysis of current Configuration Item utilization and modeling changes in IT Services
- Assurance that upgrades are planned, budgeted, and implemented before SLAs (in terms of availability or performance) are breached
- Financial benefits through avoidance of 'panic' buying.

DOCUMENT ORGANIZATION

This document is organized as follows:

- ❖ Introduction
- ❖ Capacity Management Policies
- ❖ Capacity Management Process Flow
 - Process Measurements
 - Process Roles and Responsibilities
 - Process Critical Success Factors
 - Capacity Management Process Integration Points
- ❖ 1.0 –Manage Business Capacity Requirements Procedure
 - Manage Business Capacity Requirements Procedure Rules
 - Manage Business Capacity Requirements Procedure Narrative
 - Verification
 - Management Review Criteria
 - Escalation Criteria
 - Risks
- ❖ 2.0 –Manage Service Capacity Requirements Procedure
 - Manage Service Capacity Requirements Procedure Rules
 - Manage Service Capacity Requirements Procedure Narrative
 - Verification
 - Management Review Criteria
 - Escalation Criteria
 - Risks
- ❖ 3.0 -Manage Resource Capacity Requirements Procedure
 - Manage Resource Capacity Requirements Procedure Rules

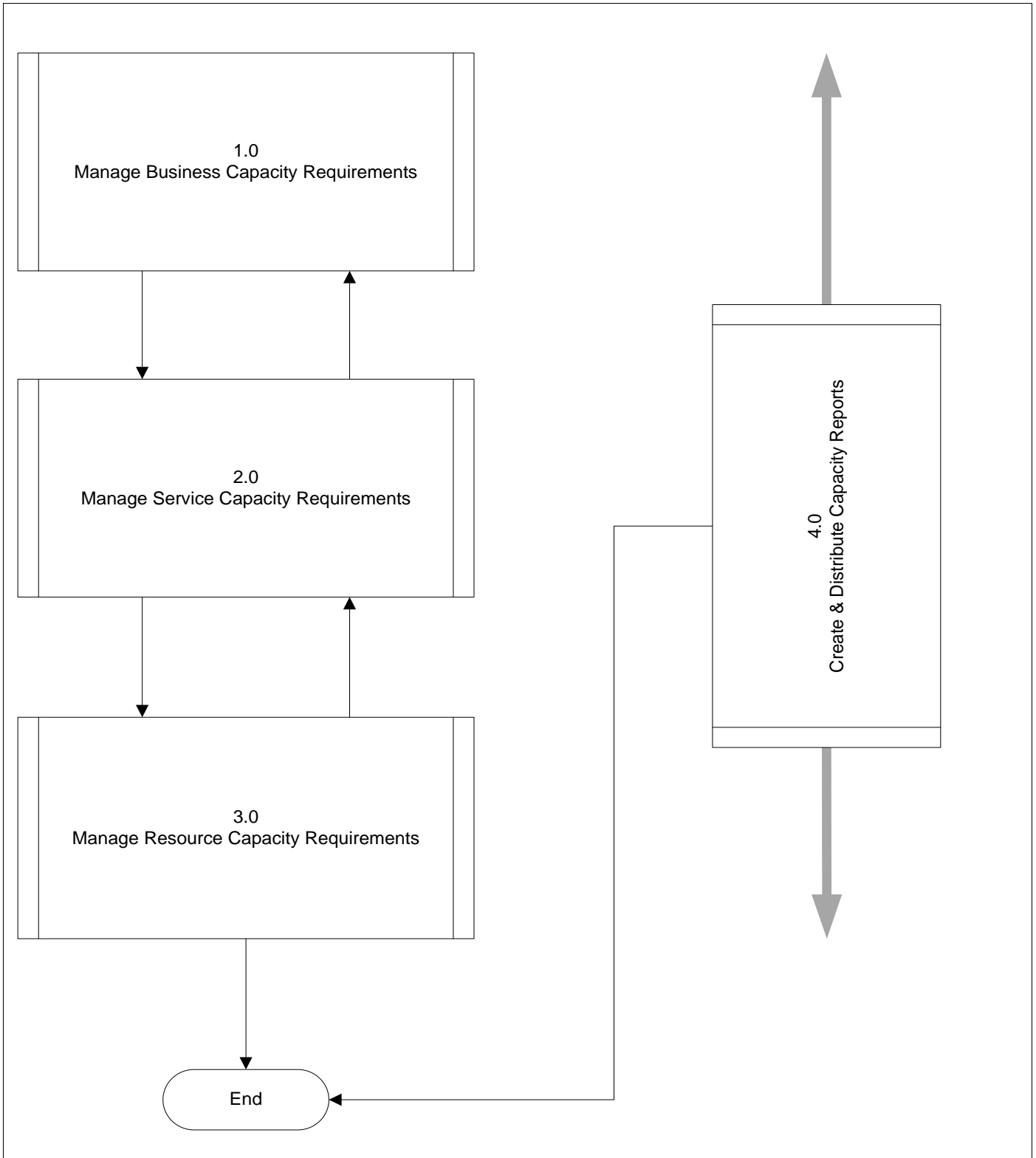
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- Manage Resource Capacity Requirements Procedure Narrative
 - Verification
 - Management Review Criteria
 - Escalation Criteria
 - Risks
 - ❖ 4.0 –Create & Distribute Capacity Reports Procedure
 - Create & Distribute Capacity Reports Procedure Rules
 - Create & Distribute Capacity Reports Procedure Narrative
 - Verification
 - Management Review Criteria
 - Escalation Criteria
 - Risks
 - ❖ Appendix 1: Relationship to Other Documents
 - ❖ Appendix 2: RACI Matrix
 - ❖ Appendix 3: Phase 1 Capacity Management Scope
 - ❖ Appendix 4: Communications Plan
 - ❖ Appendix 5: Forms, Templates
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CAPACITY MANAGEMENT POLICIES

The policies for Capacity Management at Front Metrics Technologies are as follows:

- ❖ The Capacity Management process shall identify Capacity requirements on the basis of business plans, business requirements, SLAs and MOU's and risk assessments, and shall be consulted in the development and negotiation of SLA's and MOU's.
- ❖ Capacity Plans will be kept on file for 18 months after their expiry date.
- ❖ The Capacity Plans will be reviewed at least annually to ensure requirements reflect agreed-upon changes required by the business.
- ❖ The Capacity Management process will be subject to Continuous Process Improvement.
- ❖ Capacity Management will endeavor to ensure optimal integration with other ITSM processes.
- ❖ The best available demand forecasts should be provided to Capacity Management as soon as they are identified.
- ❖ Monitoring, data gathering, analysis, reporting, and reviews will be undertaken consistently in a defined manner, with the data being stored in the Capacity Management Database (CDB).
- ❖ The contents of the CDB will be shared with other ITSM processes.
- ❖ The necessary authority will be delegated to the Capacity Management process to initiate actions which ensure required levels of IT Service Capacity and reliability.

CAPACITY MANAGEMENT PROCESS FLOW



CAPACITY MANAGEMENT GENERAL NOTES

- It is worth noting that the operational progression of the sub-processes is from 1.0 to 2.0 to 3.0, but there is also a flow from 3.0 to 2.0 and from 2.0 to 1.0.
- This becomes important in situations where a capacity event in 3.0 will have a direct impact on a service. Details of the event must be fed to 2.0, and 2.0 will, in turn, feed the details to 1.0.

CAPACITY MANAGEMENT PROCESS ROLES & RESPONSIBILITIES

Role	Responsibilities
Capacity Manager	<ul style="list-style-type: none"> • A Capacity Manager has responsibility for ensuring that the aims of Capacity Management are met. This includes such tasks as: <ul style="list-style-type: none"> • Ensuring that there is adequate IT capacity to meet required levels of service, and that senior IT management is correctly advised on how to match capacity and demand and to ensure that use of existing capacity is optimized • Identifying, with the Service Level Manager, capacity requirements through discussions with the business users • Understanding the current usage of the infrastructure and IT services, and the maximum capacity of each component • Performing sizing on all proposed new services and systems, possibly using modeling techniques, to ascertain capacity requirements • Forecasting future capacity requirements based on business plans, usage trends, sizing of new services, etc. • Production, regular review and revision of the Capacity Plan, in line with the organization's business planning cycle, identifying current usage and forecast requirements during the period covered by the plan • Ensuring that appropriate levels of monitoring of resources and system performance are set • Analysis of usage and performance data, and reporting on performance against targets contained in SLAs • Raising incidents and problems when breaches of capacity or performance thresholds are detected, and assisting with the investigation and diagnosis of capacity-related incidents and problems • Identifying and initiating any tuning to be carried out to optimize and improve capacity or performance • Identifying and implementing initiatives to improve resource usage – for example, demand management techniques • Assessing new technology and its relevance to the organization in terms of performance and cost • Being familiar with potential future demand for IT services and assessing this on performance service levels

CAPACITY MANAGEMENT PROCESS ROLES & RESPONSIBILITIES

Role	Responsibilities
	<ul style="list-style-type: none"> • Ensuring that all changes are assessed for their impact on capacity and performance and attending CAB meetings when appropriate • Producing regular management reports that include current usage of resources, trends and forecasts • Sizing all proposed new services and systems to determine the computer and network resources required, to determine hardware utilization, performance service levels and cost implications • Assessing new techniques and hardware and software products for use by Capacity Management that might improve the efficiency and effectiveness of the process • Performance testing of new services and systems • Reports on service and component performance against targets contained in SLAs • Maintaining a knowledge of future demand for IT services and predicting the effects of demand on performance service levels • Determining performance service levels that are maintainable and cost-justified • Recommending tuning of services and systems, and making recommendations to IT management on the design and use of systems to help ensure optimum use of all hardware and operating system software resources • Acting as a focal point for all capacity and performance issues.
Capacity Analyst	<ul style="list-style-type: none"> • The Capacity Analyst performs or directs many of the day-to-day and strategic capacity activities on behalf of the Capacity Manager. • Whereas the Capacity Manager is accountable for most capacity-related activities, the Capacity Analyst is responsible for the gathering and analyzing of data for a specific service support area (e.g. Network), and then forwarding the information to the Capacity Manager, who will provide the holistic view for an entire service. • Possesses a comprehensive knowledge of the service delivery infrastructure and the capacity impacts of those infrastructure components on the service as a whole. • When analysis is required, initiates the requests to the appropriate infrastructure teams, receives and analyzes the results, and creates the various reports. • Reviews all Capacity reports with the Capacity Manager and publishes them after approval.

CAPACITY MANAGEMENT PROCESS MEASUREMENTS

- Utilization Reports on the components in CDB

- SLA breaches reports by weeks, months
- Services usage reports by days, weeks, months
- Reduction in cost report by service
- Up-time reports
- Resource forecasts reports

CAPACITY MANAGEMENT CRITICAL SUCCESS FACTORS

- Considering IT Service capacity requirements during service design
- Ability to plan and implement appropriate capacity to match current and future business needs
- Provision of organizational strategic business plans
- Provision of accurate business forecasts
- Creation of an integrated source of capacity data to allow analysis of the usage of all Configuration Items in scope
- Ability to successfully analyze capacity data
- Creation of appropriate thresholds provide warnings and alerts
- Provision of technology to automatically manage thresholds
- Senior management commitment in terms of resources and budget for the process

CAPACITY MANAGEMENT PROCESS RELATIONSHIPS			
Process		Process	Information
Capacity Management to Service Delivery			

CAPACITY MANAGEMENT PROCESS RELATIONSHIPS			
Process		Process	Information
Capacity Management	to	Service Level Management	<ul style="list-style-type: none"> • Considerations of and agreements to required service levels • Contribution to the design of services and cost: value ratios • Identification of the need and proposals for demand management • Identification of throughput and peaks and troughs for SLA's • Provision of capacity metrics and advice for service reviews • Help with identifying response times and batch turnaround times for SLA's • Measurement of transaction response, batch elapsed times, etc. • Capacity predictions and plan
			•
Capacity Management	to	Availability Management	<ul style="list-style-type: none"> • Work together very closely in designing resiliency (shares tools) • Capacity plan details how Availability issues have been dealt with • Provide capacity information to help assess component risk • Details of new technology being considered
Availability Management	to	Capacity Management	<ul style="list-style-type: none"> • Information to review if unavailability linked to capacity • Resource Capacity Management information • Share tools with Capacity Management • Share use of techniques such as CFIA and FTA • Completed CFIA
			•
Capacity Management	to	IT Service Continuity	<ul style="list-style-type: none"> • Extent of infrastructure needed in emergency – minimum to support required performance and throughput • Update ITSCM plan as services change • Participate in tests and monitor performance to ensure SLR's can be met • Ensures that ITSCM requirements are included in the Capacity Plan • Inform BIA process by providing details of workload profiles • Assist in evaluation of potential recovery options • Review RFC's for their impact on the ITSCM Plan
IT Service Continuity Management	to	Capacity Management	<ul style="list-style-type: none"> • Design information to feed Capacity Plan • Business / ITSCM strategy for inclusion in Capacity plan
			•
Capacity Management	to	Financial Management for IT Services	<ul style="list-style-type: none"> • Details to support charging or a new requirement • Cost allocation mechanics based on resource usage • Details of predicted workload and users • Half of the capacity vs. cost equation • Predictions of upgrades for budgeting and planning • Usage and performance data • All resources used in the Capacity Management process
Financial Management for	to	Capacity Management	<ul style="list-style-type: none"> • Assistance in costing capacity options

CAPACITY MANAGEMENT PROCESS RELATIONSHIPS			
Process		Process	Information
IT Services			<ul style="list-style-type: none"> • Cost of Capacity Management • Budgeting provides the money to feed the Capacity Plan • Influence customer demand for stretched resources (helping make better use of existing resources) • Financial Plans and Budgets within which Capacity Management must operate • Current budget and cost effectiveness
Capacity Management	to	Configuration Management	<ul style="list-style-type: none"> • Updates for CI's stored in the CMDB
Configuration Management	to	Capacity Management	<ul style="list-style-type: none"> • Current infrastructure topology to identify what requires Capacity Management • Identification of potential performance bottlenecks and other points of weakness • Knowledge of the relations between service elements could aid in problem management • Resource information, stored in the CMDB is used by Capacity Management • Capacity Plan stored in CMDB
Capacity Management	to	Change Management	<ul style="list-style-type: none"> • Assessment of RFC's and their impact on Capacity • RFC's for improved process • RFC's for improved Capacity
Change Management	to	Capacity Management	<ul style="list-style-type: none"> • RFC for Capacity Management Assessment • FSC • Backed out Changes • Reports on implemented changes for their impact on Capacity
Capacity Management	to	Release Management	<ul style="list-style-type: none"> • Identification of Capacity issues during release planning • Immediate identification of Capacity issue during a Release
Release Management	to	Capacity Management	<ul style="list-style-type: none"> • Release Plans
Capacity Management	to	Incident Management	<ul style="list-style-type: none"> • Advice on Workarounds
Incident Management	to	Capacity Management	<ul style="list-style-type: none"> • Incidents related to Capacity failures or potential failures
Capacity Management	to	Problem Management	<ul style="list-style-type: none"> • Highlight potential Capacity Problems • Resource provision on Problem Management teams
Problem Management	to	Capacity Management	<ul style="list-style-type: none"> • Problem data relating to capacity issues • Leadership when there are complex problems involving Capacity issues



MANAGE BUSINESS CAPACITY REQUIREMENTS PROCEDURE FLOW



MANAGE BUSINESS CAPACITY REQUIREMENTS PROCEDURES RULES

Inputs	<ul style="list-style-type: none"> Approved RFC
Entry Criteria	<ul style="list-style-type: none"> New Suggested Service OR Major change, to existing service
General Comments	The purpose of this procedure is to analyze, forecast and document the organization's (future) demand for IT capacity.

MANAGE BUSINESS CAPACITY REQUIREMENTS PROCEDURE NARRATIVE

Step	Responsible Role	Action
1.1 Quantify Business Impacts	Capacity Manager, Capacity Analyst	<ul style="list-style-type: none"> Receive the RFC for the new or changed service. Review the details of the RFC. Determine the impacts to the business of implementing this RFC. Record the determined impacts. Proceed to 1.2 – Review SLA's.
1.2 Review SLA's	Capacity Manager, Capacity Analyst	<ul style="list-style-type: none"> Review all SLA's for the service which will be impacted. Determine the impacts on the current SLA's of implementing the new or changed service. Record the results of the analysis. Proceed to 1.3 – Decision – Changes Required?
1.3 Decision – Changes Required?	Capacity Manager	<ul style="list-style-type: none"> Will changes be required to the infrastructure be required in order to deliver the new or changed service as well as to maintain the current SLA's? If "yes", proceed to Service Level Management, which will Negotiate, Obtain Agreement, and Sign the amended SLA. If "no", proceed to Service Level Management, which will define and obtain agreement on Service Level Requirements. <p>Note1: SLR = Service Level Requirements.</p>

MANAGE BUSINESS CAPACITY REQUIREMENTS PROCEDURE NARRATIVE

Step	Responsible Role	Action
1.4 Develop & Agree on SLR's	Capacity Analyst, Capacity Manager	<ul style="list-style-type: none"> • In consultation with the teams impacted by this new or changed service, develop Service Level Requirements. • Agree and document the SLR's. • Interface with the Configuration Management processes to design, amend or procure items for the new configuration. • After that, invoke the Change Management processes to deploy the change. • Finally, interface with the Configuration Management processes to update the CMDB (Configuration Management Database) and the CDB (Capacity Database). <p>Note: The Service Level Manager will be kept informed of the fact that new SLR's have been defined and agreed upon, since the delivery of those requirements will have a direct impact on the services for which there are SLA's.</p>
Return		<ul style="list-style-type: none"> • Exit this sub-process and return to the calling process (0.0)

Exit Criteria	<ul style="list-style-type: none"> • Completion and validation that the change has executed according the Change Management Process. • CMDB and CDB updated as appropriate
Outputs	<ul style="list-style-type: none"> • Closed RFC • Updated CMDB • Updated CDB.

VERIFICATION	
Result	Action
Closed RFC	Proceed
Updated CMDB	Proceed
Updated CDB.	Proceed

MANAGEMENT REVIEW CRITERIA	
Result	Action

ESCALATION CRITERIA		
Event	Action	Notification
Dispute between Capacity Management and Change Management on the criteria for success of the change.	Escalation through normal management chain	The Change Manager is the ultimate decision maker.

RISKS	
Risk	Impact
No approved RFC	Reduced chance that the change will be successfully applied
Databases not updated	Risk that there will continue to be service delivery issues because the changes have not been recorded, rendering impact analysis less than effective.



MANAGE SERVICE CAPACITY REQUIREMENTS PROCEDURE FLOW



MANAGE SERVICE CAPACITY REQUIREMENTS PROCEDURE RULES

Inputs	<ul style="list-style-type: none"> Capacity Event incident Record, OR Notification that the CMDB and/or the CDB have been updated (from 1.0).
Entry Criteria	<ul style="list-style-type: none"> The Capacity Event has been recorded in the Remedy Incident system, OR Notification that the Business Capacity Requirements sub-process has completed and been validated.
General Comments	The purpose of this sub-process is to monitor, guard, analyze and report on the performance of the IT capacity regarding the organization's demand.

MANAGE SERVICE CAPACITY REQUIREMENTS PROCEDURE NARRATIVE

Step	Responsible Role	Action
2.1 Strive to Ensure Agreed Service Levels are Maintained	Capacity Manager, Service Level Manager	<ul style="list-style-type: none"> Determine service levels based on: <ul style="list-style-type: none"> SLAs The Capacity Plan Other Critical Factors e.g. input from Risk Assessments, Component Failure Impact Analysis, Service Outage Analysis etc. Conduct activities to ensure that the required service levels are maintained. Proceed to 2.2 - Monitor, Evaluate, & Report.
2.2 Monitor, Evaluate & Report	Capacity Analyst	<ul style="list-style-type: none"> Ensure that regular monitoring is being performed on those components that have been identified as critical to the provision of services as defined in SLA's. Perform regular evaluation of the capacity from the perspective of its general health for service provision. Produce regular reports on the findings, and distribute the reports to the Service Level Manager and to the managers of the various infrastructure components. Proceed to 2.3 - Identify Trends.
2.3 Identify Trends	Capacity Manager	<ul style="list-style-type: none"> Identify any trends which emerge as a result of the regular monitoring and evaluation of the components involved in the delivery of the services. Document the trends so that they can be used in future analyses. Proceed to 2.4 – Establish Normal Operation Levels.
2.4 Establish Normal Operation Levels	Capacity Manager, Capacity Analyst	<ul style="list-style-type: none"> When there is sufficient data, establish the normal operation levels for the components involved in the delivery of the services. Document those normal operation levels and obtain agreement from the appropriate managers. Proceed to 2.5 – Define Exception Levels.

MANAGE SERVICE CAPACITY REQUIREMENTS PROCEDURE NARRATIVE

Step	Responsible Role	Action
2.5 Define Exception Levels	Capacity Manager	<ul style="list-style-type: none"> Establish tolerance levels for each of the components, and obtain agreement from the appropriate managers. Document the agreed-upon tolerances so that appropriate responses can also be defined. Proceed to 2.6 – Report Service Breaches and Near Misses. <p>Note: The tolerances should be such as to allow ample time to address issues prior to a service breach. For example, a disc being 85% full could be an exception level.</p>
2.6 Report Service Breaches & Near Misses	Capacity Manager	<ul style="list-style-type: none"> Have a standard format for reporting service breaches as well as situations where the agreed-upon tolerances have been approached. As required, prepare this report for the Service Level Manager. Proceed to Return.
Return		<ul style="list-style-type: none"> Exit the Manage Service Capacity Requirements sub-process and return to the calling process.

Exit Criteria	<ul style="list-style-type: none"> Normal operation levels as well as tolerances for each identified component have been identified and agreed-upon. Service Breaches and near misses have been identified and reported to the Service Level Manager.
Outputs	<ul style="list-style-type: none"> Normal performance level definitions, Exception level definitions, Performance Data, Service Reports

VERIFICATION

Result	Action
Monitoring completed for defined timescale	Proceed
Trending is being performed on a regular basis	Proceed.
Normal component performance levels have been identified and documented for identified components	Proceed
Exception levels have been identified and documented for identified components	Proceed

REVIEW CRITERIA

Result	Action
Monitoring is not generating data to the level needed e.g. to pinpoint to cause of a specific Capacity-related event	Management decides whether more detailed monitoring is required by balancing the need for the data against the potential impact that the generation of large

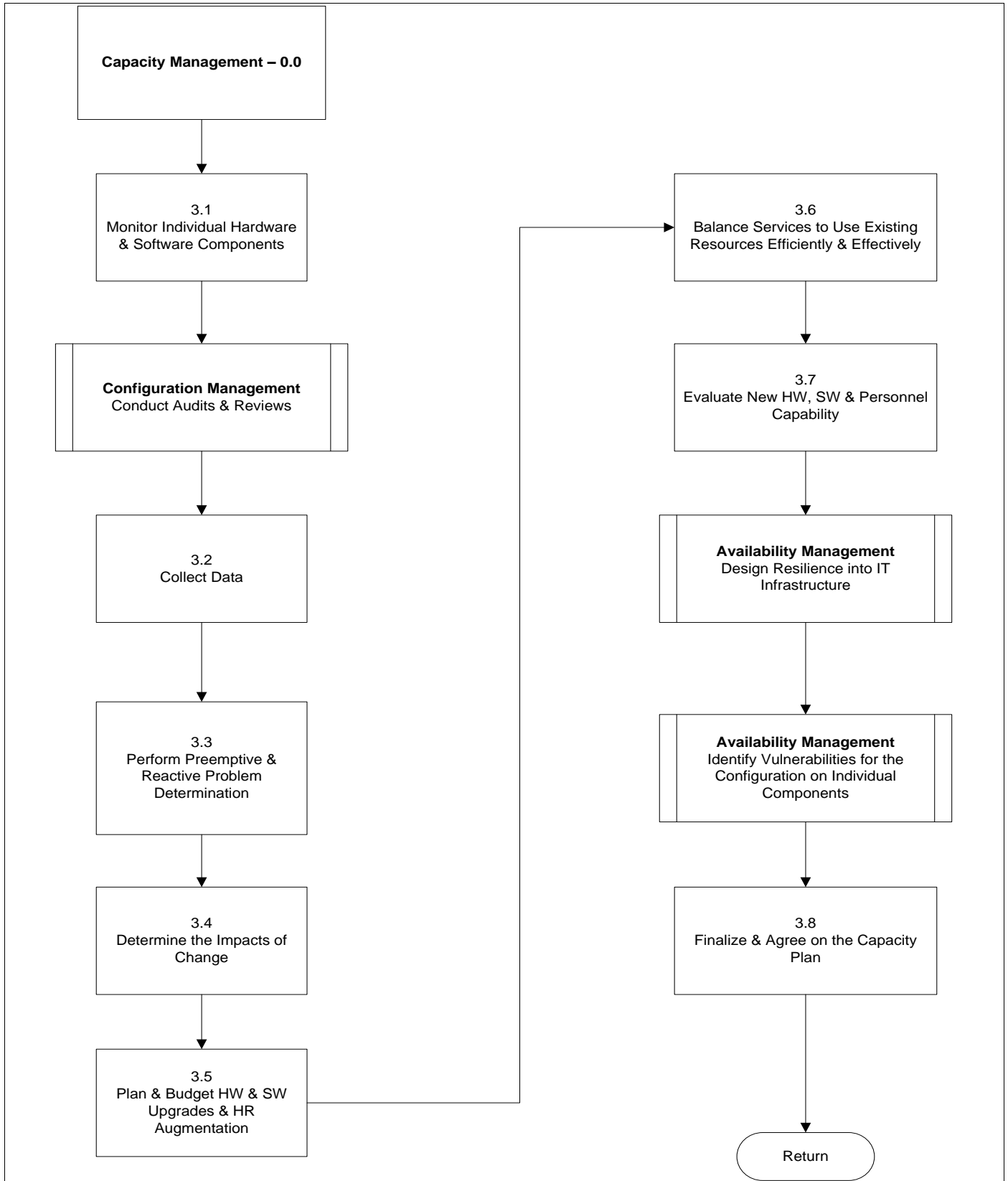
REVIEW CRITERIA	
Result	Action
	amounts of data may have on the IT environment

ESCALATION CRITERIA		
Event	Action	Notification
Service Level Agreements have been breached	Notify Service Level Management	Service Level Manager

RISKS	
Risk	Impact
N/A	



MANAGE RESOURCE CAPACITY REQUIREMENTS PROCEDURE FLOW:



MANAGE RESOURCE CAPACITY MANAGEMENT PROCEDURES RULES

Inputs	<ul style="list-style-type: none"> • Normal performance level definitions, • Exception level definitions, • Performance Data, • Service Reports
Entry Criteria	Sub-Processes 1.0 and 2.0 have been completed.
General Comments	The purpose of the Manage Resource Capacity Requirements is to monitor, guard, analyze and tune the performance of the various components of the IT infrastructure.

MANAGE RESOURCE CAPACITY REQUIREMENTS PROCEDURE NARRATIVE

Step	Responsible Role	Action
3.1 Monitor Individual Hardware & Software Components	Capacity Analyst	<ul style="list-style-type: none"> • Ensure that monitoring is functioning as intended for each of the components on which it is installed and activated. • Proceed to 3.2 – Collect Data.
3.2 Collect Data	Capacity Analyst	<ul style="list-style-type: none"> • Collect the data for the components on which monitoring is installed and activated. • Organize and collate the gathered data so as to allow for analysis. • Pass this data to the Service Level Management Process, which will perform audits and reviews on the components from the perspective of their current and future capabilities to deliver the service within the parameters agreed-upon by the SLA's. • After the results of the audits or reviews have been returned from Service Level Management, proceed to 3.3 – Perform Preemptive and Reactive Problem Determination.
3.3 Perform Preemptive and Reactive Problem Determination	Capacity Analyst	<ul style="list-style-type: none"> • Review the results of the monitoring or the Reviews/Audits, as well as the details of any Capacity Event if appropriate. • Determine the probable cause of any actual or potential capacity problems. • Identify potential solutions to the problems. • Record the details of this activity • Proceed to 3.4 - Determine the Effects of Change.
3.4 Determine the Effects of the Change	Capacity Analyst	<ul style="list-style-type: none"> • Decide which techniques are appropriate for determining the effects of a proposed change. • As appropriate, perform trending, or modeling. • Determine training requirements for the proposed change. • Document the findings. • Proceed to 3.5 – Plan & Budget HW & SW Upgrades & HR augmentation.

MANAGE RESOURCE CAPACITY REQUIREMENTS PROCEDURE NARRATIVE

Step	Responsible Role	Action
3.5 Plan & Budget HW & SW Upgrades and HW Augmentation	Capacity Manager, Capacity Analyst	<ul style="list-style-type: none"> Create a budget for the upgrades or augmentation. Create a high-level plan for the upgrade or augmentation. Proceed to 3.6 – Balance Services to Use Existing Resources Efficiently and effectively.
3.6 Balance Services to Use Existing Resources Efficiently & Effectively	Capacity Analyst	<ul style="list-style-type: none"> Identify opportunities to perhaps avoid short-term expenditures by balancing resource usage. Should such opportunities be identified, deploy them. Proceed to 3.7 – Evaluate new HW, SW and Personnel Capability
3.7 Evaluate new HW, SW & Personnel Capability	Capacity Manager, Capacity Analyst	<ul style="list-style-type: none"> Evaluate the capabilities of any new hardware components which have been introduced into the environment. Evaluate the capabilities of any new software which has been introduced into the environment. Evaluate the capabilities of personnel to manage the new hardware or software, especially when if those additions have increased the workload. Document the results of the evaluations, and distribute them to the appropriate personnel. Proceed to 3.8 – Finalize & Agree on the Capacity Plan.
3.8 Finalize & Agree on the Capacity Plan	Capacity Manager	<ul style="list-style-type: none"> Collate all of the required elements for the new or updated Capacity Plan. Create or Update the Capacity Plan. Obtain agreement for the new or updated plan from the appropriate support teams, as well as from the Service Level Manager. Record the current Capacity Plan in the CDB. Proceed to Return.
Return		<ul style="list-style-type: none"> Exit the Manage Resource Capacity Requirements procedure, and return to the calling process.

Exit Criteria	The Capacity Plan is completed and agreed upon by all appropriate parties.
Outputs	Completed and agreed-upon Capacity Plan, Hardware, software and personnel evaluations where appropriate.

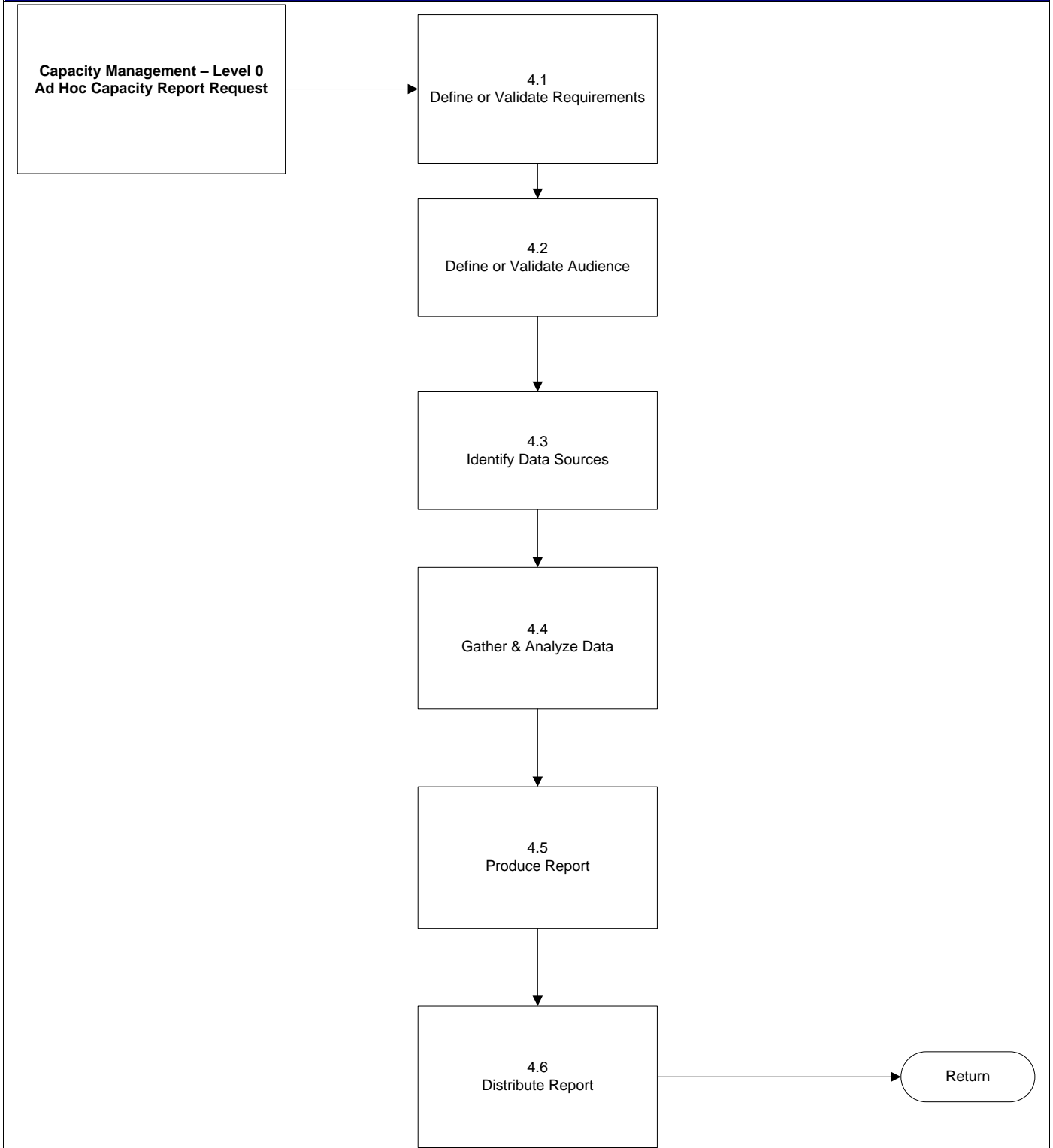
VERIFICATION	
Result	Action
Capacity Plan completed and agreed-upon	Proceed

REVIEW CRITERIA	
Result	Action
The Capacity Plan is not at the level required to adequately manage service agree-upon service delivery levels	Management decides what should be included in the plan to provide adequate capacity control, and initiates a change to incorporate those items.

ESCALATION CRITERIA		
Event	Action	Notification
Agreement cannot be reached on the Capacity Plan.	Notify Service Level Management	Service Level Manager

RISKS	
Risk	Impact
No agreed-upon Capacity Plan	Service breaches because of Capacity events.

CREATE & DISTRIBUTE CAPACITY REPORTS PROCEDURE FLOW



CREATE & DISTRIBUTE CAPACITY REPORTS PROCEDURE RULES

Inputs	<ul style="list-style-type: none"> Request for an ad hoc Capacity Report Capacity data (varies, depending on the nature of the report) Automated Tool CI Identification
Entry Criteria	For ad hoc requests, a valid service request must be created.
General Comments	

CREATE & DISTRIBUTE CAPACITY REPORTS PROCEDURE NARRATIVE

Step	Responsible Role	Action
4.1 Define or Validate Requirements	Capacity Manager	<ul style="list-style-type: none"> For regularly scheduled reports ensure that the requirements are still valid. For ad hoc reports define the reporting requirements. Proceed to 4.2 – Define or Validate Audience.
4.2 Define or Validate Audience	Capacity Manager	<ul style="list-style-type: none"> For regularly scheduled reports ensure that the identified audience is still valid. For ad hoc reports define the appropriate audience for the report. Proceed to 4.3 – Identify Data Sources.
4.3 Identify Data Sources	Capacity Manager	<ul style="list-style-type: none"> Determine the sources for the data which will be used in the report. This will probably require both the name of the data store, as well as the appropriate fields within that store. Proceed to 4.4 – Gather & Analyze Data.
4.4 Gather & Analyze Data	Capacity Manager	<ul style="list-style-type: none"> Gather and collate the required data. Perform the analysis required to produce the appropriate output. Document the results of the analysis. Determine the appropriate format and delivery media. Proceed to 4.5 – Produce Report.
4.5 Produce Report	Capacity Manager	<ul style="list-style-type: none"> Create the report as determined in step 4.4. Proceed to 4.6 – Distribute Report.
4.6 Distribute Report	Capacity Manager	<ul style="list-style-type: none"> Distribute the report to the defined audience Proceed to Return.
Return		Exit the Create & Distribute Capacity Reports sub-process and return to the calling process.

Exit Criteria	<ul style="list-style-type: none"> Completed and distributed Capacity report
Outputs	<ul style="list-style-type: none"> Capacity report.

VERIFICATION	
Result	Action
Requirements defined or validated.	Proceed
Audience defined or validated.	Proceed
Data sources identified.	Proceed
Report produced	Proceed

REVIEW CRITERIA	
Result	Action
The Capacity Plan is not at the level required to adequately manage service agree-upon service delivery levels	Management decides what should be included in the plan to provide adequate capacity control, and initiates a change to incorporate those items.

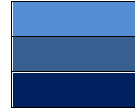
ESCALATION CRITERIA		
Event	Action	Notification
Agreement cannot be reached on the Capacity Plan.	Notify Service Level Management	Service Level Manager

RISKS	
Risk	Impact
No agreed-upon Capacity Plan	Service breaches because of Capacity events.

APPENDIX 1: RELATIONSHIP TO OTHER DOCUMENTS

Document Name	Relationship
Capacity Management Business Process Requirements	Requirements
Service Improvement Process & Procedures	Process, Procedure
Service Level Management Process & Procedure	Process, Procedure
Capacity Management Plan Template	Template

R - Responsible Role responsible for getting the work done
A - Accountable Only one role can be accountable for each activity
C - Consult The role who are consulted and whose opinions are sought
I - Inform The role who are kept up-to-date on progress



Primary Roles in Process
Primary Interactions
Secondary Roles

APPENDIX 2: CAPACITY RACI CHART							
Capacity Management Process Activities	Capacity Manager	Capacity Analyst	Service Level Manager	Support Teams Management	Process Owner	Configuration Manager	Change Manager
1.0 – Manage Business Capacity Requirements							
1.1 Quantify Business Impacts	A	R	C	I	I	I	I
1.2 Review SLA's	A	I	C	I	I	I	I
1.3 Decision - SLA Changes Required?	A	I	C	I	I	I	I
2.0 – Manage Service Capacity Requirements							
2.1 Strive to Ensure Agreed Service Levels are Maintained	R	C	A	C	I	I	I
2.2 Monitor, Evaluate & Report	A	R	I	C	I	I	I
2.3 Identify Trends	A	R	C	C	I	C	C
2.4 Establish Normal Service Operation Levels	A	R	C	C	I	I	I
2.5 Define Exception Levels	A	R	C	C	I	I	I
2.6 Report on Service Breaches & Near Misses	A	R	C	C	I	I	I
3.0 - Manage Resource Capacity Requirements							
3.1 Monitor Individual Hardware & Software Components	I	A	I	C	I	I	I
3.2 Collect Data	I	A	I	C	I	I	I
3.3 Perform Preemptive and Proactive Problem Determination	C	A	C	C	I	I	I
3.4 Determine the Effects of Change	C	A	I	C	I	C	C
3.5 Plan & Budget HW & SW Upgrades & HR Augmentation	A	C	C	C	I	C	I
3.6 Balance Services to Use Existing Resources Efficiently and Effectively	C	A	C	C	I	C	I
3.7 Evaluate New HW, SW & Personnel Capability	A	R	I	I	I	I	I
3.8 Finalize & Agree on the Capacity Plan	A	R	C	C	C	C	I

4.0 – Create & Distribute Capacity Reports							
4.1 Define or Validate Requirements	A	C	C	I	I	I	I
4.2 Define or Validate Audience	A	C	C	I	I	I	I
4.3 Identify Data Sources	A	R	I	I	I	I	I
4.4 Gather & Analyze Data	A	R	I	I	I	I	I
4.5 Produce Report	A	R	I	I	I	I	I
4.6 Distribute Report	A	R	I	I	I	I	I

APPENDIX 3: PHASE 1 CAPACITY MANAGEMENT SCOPE

Primary Measurements

- ❖ Processor Utilization
- ❖ Memory Utilization
- ❖ Network
 - ✓ Capacity
 - Port Availability
 - Switches
 - ✓ Bandwidth
 - ❖ Mb/s
 - ❖ Gb/s
- ❖ Storage
 - ✓ Capacity (GB, TB)
 - ✓ Bandwidth (IOPS)
- ❖ Database & Infrastructure Services
 - ✓ Transaction Rates
 - ✓ Peak Transactions / Second
 - ✓ Mean time to complete
- ❖ Tape
 - ✓ Mounts / Hour
 - ✓ Occupied Slots vs. Slots Available

Initial Service Focus

Account/Password Services
Network Services
Print Services

APPENDIX 4: COMMUNICATION PLAN

Key messages:

The Capacity Management process is focused on ensuring that the information technology processing and storage capacity is adequate to the evolving requirements of the organization as a whole in a timely and cost justifiable manner.

In order to achieve this, all stakeholders must be informed of the importance of each of them fulfilling his or her role in the process. There must also be continued efforts to ensure that any pertinent changes are communicated to the community.

Approach:

This plan details tasks that apply generally to all ITIL processes. The plan assumes that there will be a combination of face-to-face training/meeting events and broadcast communications designed to both increase awareness of the processes among stakeholders and to ensure high performance of the new processes among key service delivery staff.

Goals of the Communication Plan:

- Encourage participation of the target audiences:
 - Service Delivery Staff
- Coordinate communication that facilitates:
 - Good management decisions, plans & activities
 - Ensuring that Capacity Management requirements are being met and that corrective action, if necessary, is occurring

#	Activity	Timing	Responsible Party	Target Audience	Artifact
1	Event 1: Capacity Manager meets with other process owners to communicate critical configuration activities		Capacity Manager	Process Owners	Meeting minutes
2	Communication 1: Notice to Capacity Analysts of Capacity Management requirements		Capacity Manager	Capacity Analysts	E-mail Meeting invite
3	Event 2: Collect and review monthly the appropriate reports detailing Capacity Management statistics	Monthly	Capacity Manager	Computing Division Management	Meeting minutes Corrective Action Plans
4	Communication 2: Notice to Service Delivery Staff meeting to review capacity statistics	7 days before meeting	Capacity Manager drafts and delivers to Service Delivery staff	Service Delivery Staff	E-mail Meeting invite

Each type of communication has a specific focus, however a common approach can be taken to define and formulate the specific communication activities. The steps listed below formulate the approach to be taken to compose those activities:

Activities
<p>Step 1 – Formulation Formulate goals and objectives of communication Formulate core message Identify all parties involved Integrate with existing communications forums</p>
<p>Step 2 – Analysis Determine available and acceptable communication media Determine communication culture and define acceptable approach Determine existing knowledge of subject in the environment</p>
<p>Step 3 – Identification Determine key interest groups related to the subject of the campaign Determine communication objectives per interest group Determine the key messages from each interest group's perspective</p>
<p>Step 4 – Definition Select the most appropriate media for communication from: Direct Media – such as workshops, Focus Group discussions, or individual presentations Indirect Media – such as the Intranet, lectures or newsletters</p>
<p>Step 5 – Planning Define a plan that links important points in the subject of the communication (e.g. milestones in a project) to communication activities, and media Determine the communication audience and resources Determine the review criteria for successful communication Obtain formal management support for the plan</p>
<p>Step 6 – Implementation Using the FRONT METRICS TECHNOLOGIES. Communications Process, perform communication activities as per plan Manage the plan and safeguard it Ensure production and distribution of materials is effective and as per plan Continually gauge reaction to the approach and messages</p>
<p>Step 7 – Evaluation Monitor reactions to the communication approach throughout the delivery of the plan and adjust the plan if necessary Determine during the effects of the campaign using the review criteria established in step 5</p>

The following types of communication are available:

Communication Type	Examples of Usage
Escalations	To initiate (or trigger) actions To gain required resources (people, information, budget etc.)
Notifications	To communicate operational process information To promote team awareness
Controlled Documents	To communicate process descriptions/instructions To communicate reports

Each of the above types of communication can be delivered via one or more of the following mediums:

Communication Medium	Examples of Usage	Communication Type
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Email	Individual email messages Group email messages	Notification Escalations Reports
Verbal	Formal and informal meetings Presentations Telephone calls	Notifications Escalations
Documentation	Updated process documents Issued Project documentation Implementation and back-out plans	Controlled Documents
Reports	Monthly statistics Development progress	Controlled Documents Notifications
Service Management tool	Escalation Status changes Service breaches and near misses	Automated Notification

APPENDIX5: FORMS, TEMPLATES

Name	Description	Reference
Capacity Plan Template	Template which will be completed each time the Capacity Plan is created or Updated.	