

Capacity Planning Overview

Course ID : PP1007_Capacity_Planning

Lesson Objectives

- Objectives -On successful completion of this training module, you should have:
 - Understood the basics of Capacity Planning
 - Capacity evaluation and Capacity leveling



Training Agenda

- What is Capacity evaluation and Capacity leveling
- Capacity Planning Environment
- Integration Of Capacity Planning
- Capacity Planning Elements
- Areas Of Capacity Planning



Training Agenda

- Process Flow
- Capacity Lists And Functions
- Essentials
- Work Centers
- Central Shift Sequences
- Work Time – Operating Time
- Capacity Requirements Views And Dispatching.



PP Capacity Planning Overview

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Prepare Me

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Tell Me

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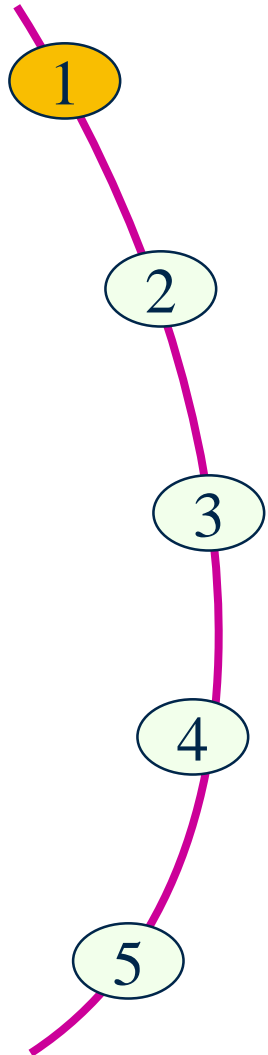
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5

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PP Capacity Planning Overview



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Prepare Me

Capacity planning comprises the following partial components:

Capacity evaluation

- In the capacity evaluation, available capacity and capacity requirements are determined and compared with each other in lists or graphics.

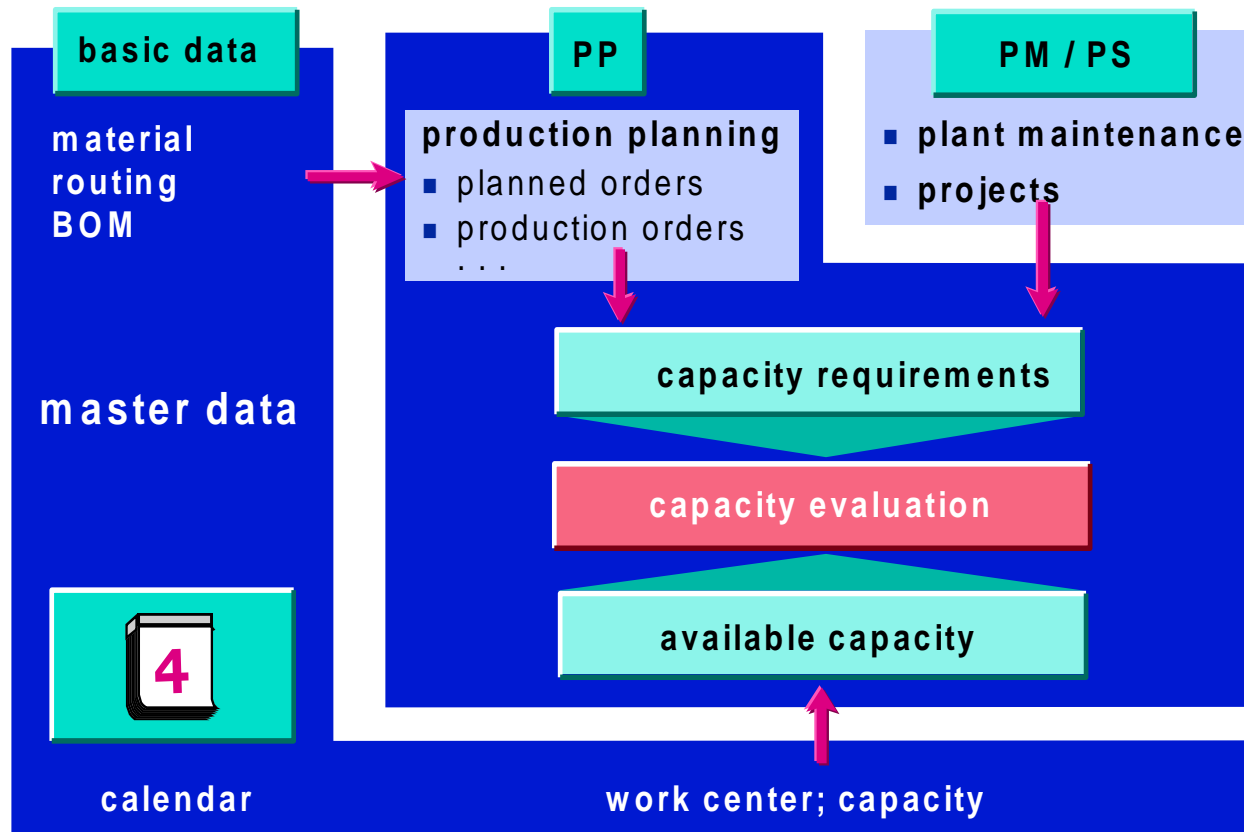
Capacity leveling

- The objectives of capacity leveling are:
 - Optimal capacity commitment
 - Selection of appropriate resources



Capacity Planning Environment

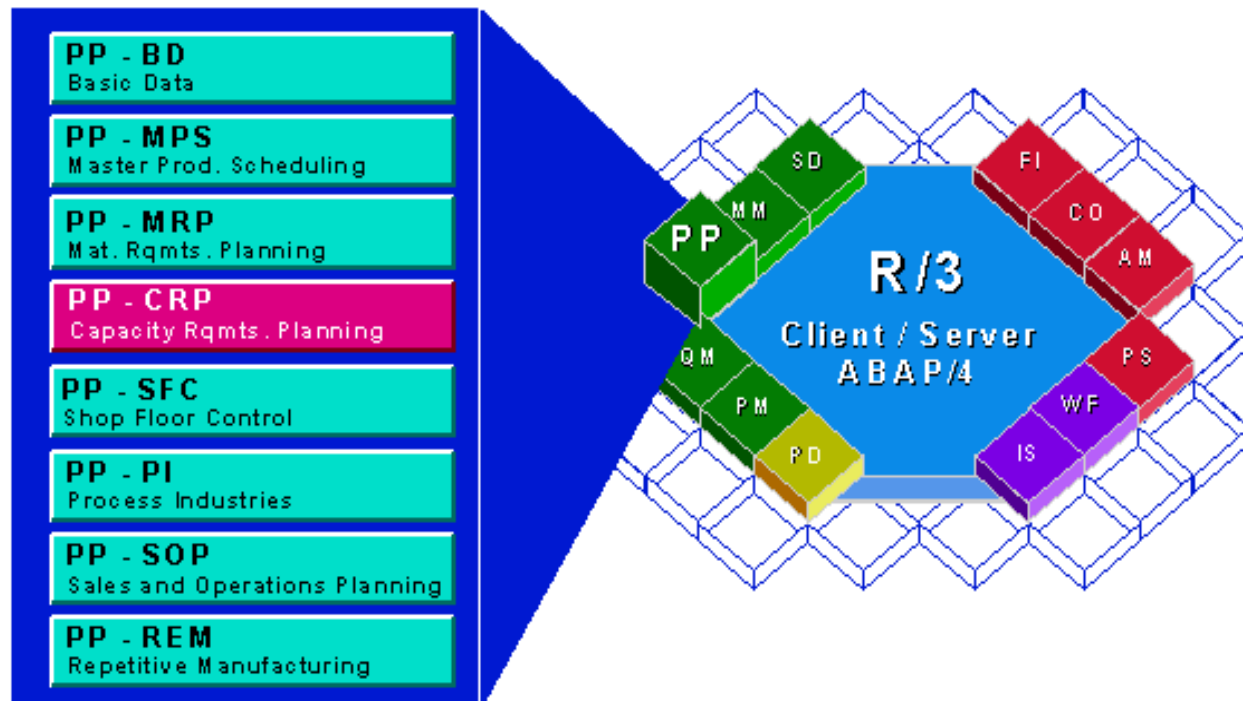
Capacity Planning Environment



Integration Of Capacity Planning

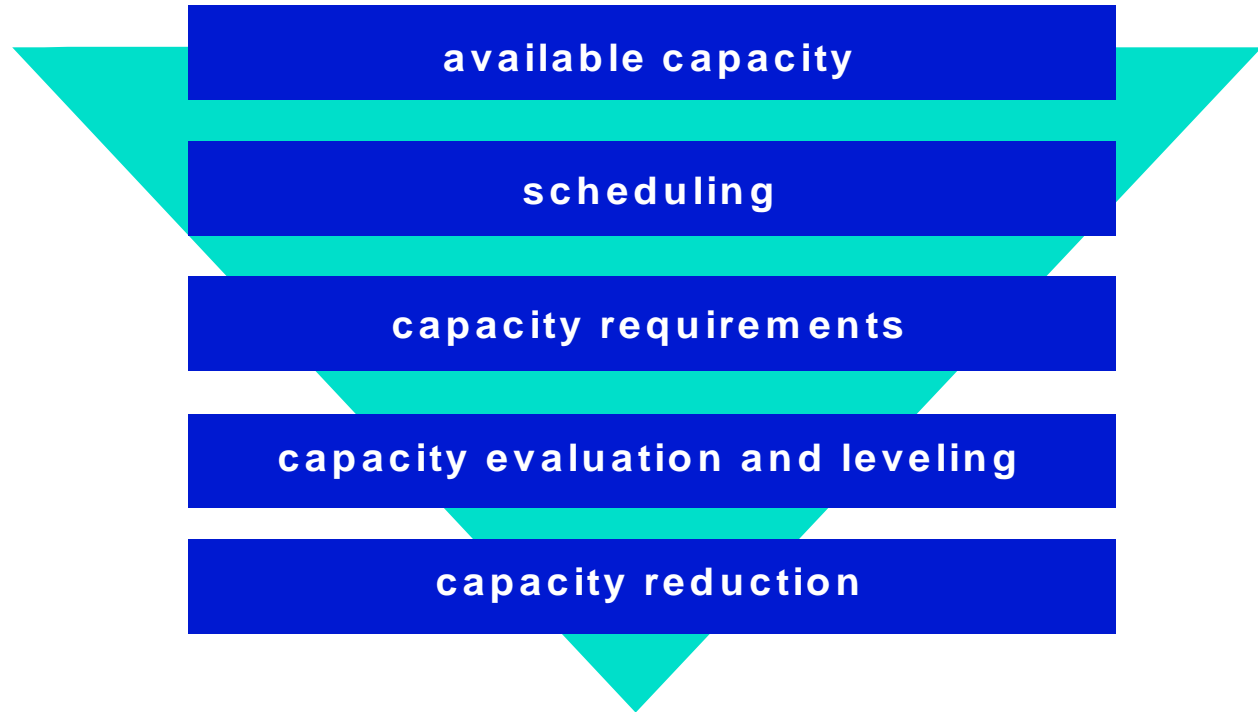


Integration of Capacity Planning



Capacity Planning / Elements

Capacity Planning / Elements



Areas Of Capacity Planning

Areas of Capacity Planning

capacity evaluation

- determination of available capacity
- determination of capacity requirements
- comparison of available capacity and capacity requirements

capacity leveling

- leveling of overloads and underloads
- optimal commitment
- selection of suitable resources

Purpose

Purpose of Product Cost Planning:

- Capacity planning supports planning in all its phases:
 - i. long-term rough-cut planning
 - ii. medium-term planning
 - iii. short-term detailed planning
- Capacity planning can be flexibly adjusted to planning demands and to the area of responsibility within the company.

Capacity evaluation

- We can use capacity evaluations to analyze capacity loads in the company. We can adjust the analyses for each user according to the planning level, planning horizon and the area of responsibility
- We can use work center hierarchies to cumulate the available capacities of production work centers and their capacity requirements to superior planning work centers.

Capacity Leveling

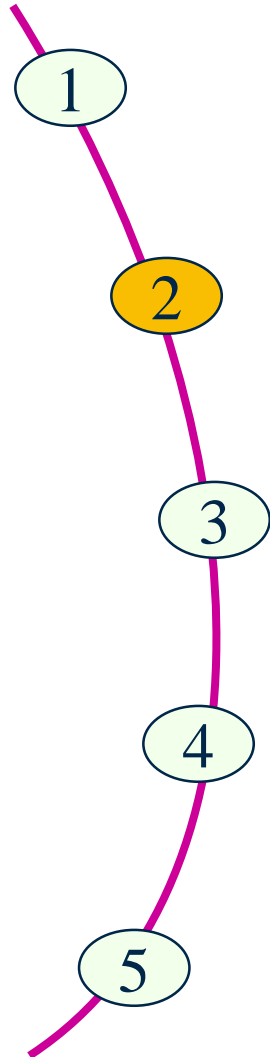
- Capacity leveling is used in various areas of a company and at different planning levels with the following objectives:
 - i. High capacity load
 - ii. Adherence to dates
 - iii. Short lead times
 - iv. Low stocks
- The objectives of capacity leveling include Leveling overloads and under loads at work centers
- Achieving optimum commitment of machines and production lines and selection of appropriate resources

Challenges

Capacity Evaluation

- We can use capacity evaluations to analyze capacity loads in the company.
- We can adjust the analyses for each user according to the planning level, planning horizon and the area of responsibility.

PP Capacity Planning Overview



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The next slides shows Process Flow of PP Capacity Planning Overview.

Areas Of Capacity Planning

Areas of Capacity Planning

capacity evaluation

- determination of available capacity
- determination of capacity requirements
- comparison of available capacity and capacity requirements

capacity leveling

- leveling of overloads and underloads
- optimal commitment
- selection of suitable resources

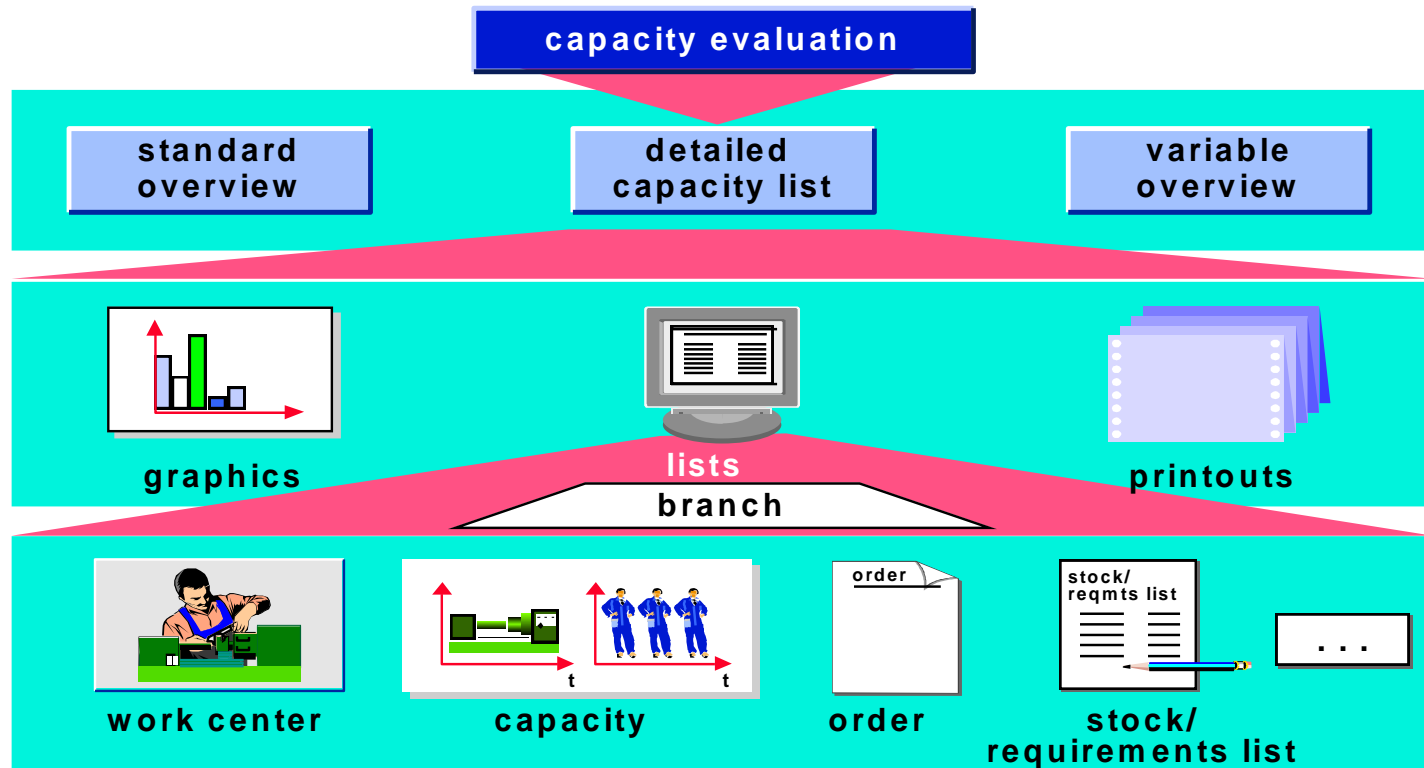
Capacity Evaluation

Capacity Evaluation

- **capacity overviews**
 - ◆ **available capacity**
 - ◆ **capacity requirements**
- **order detail lists**
- **graphics**
- **print functions**

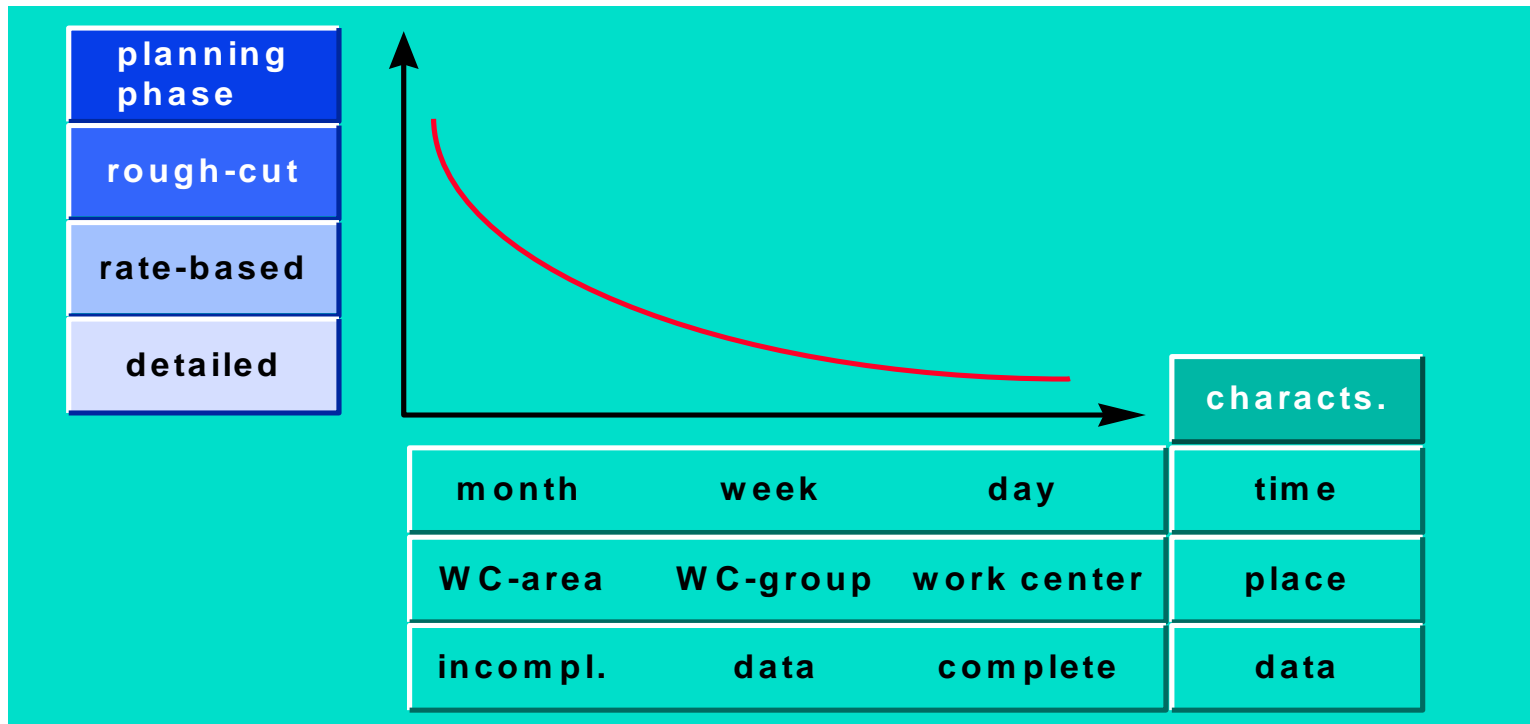
Capacity List and Functions

Detailed Capacity List and its Functions



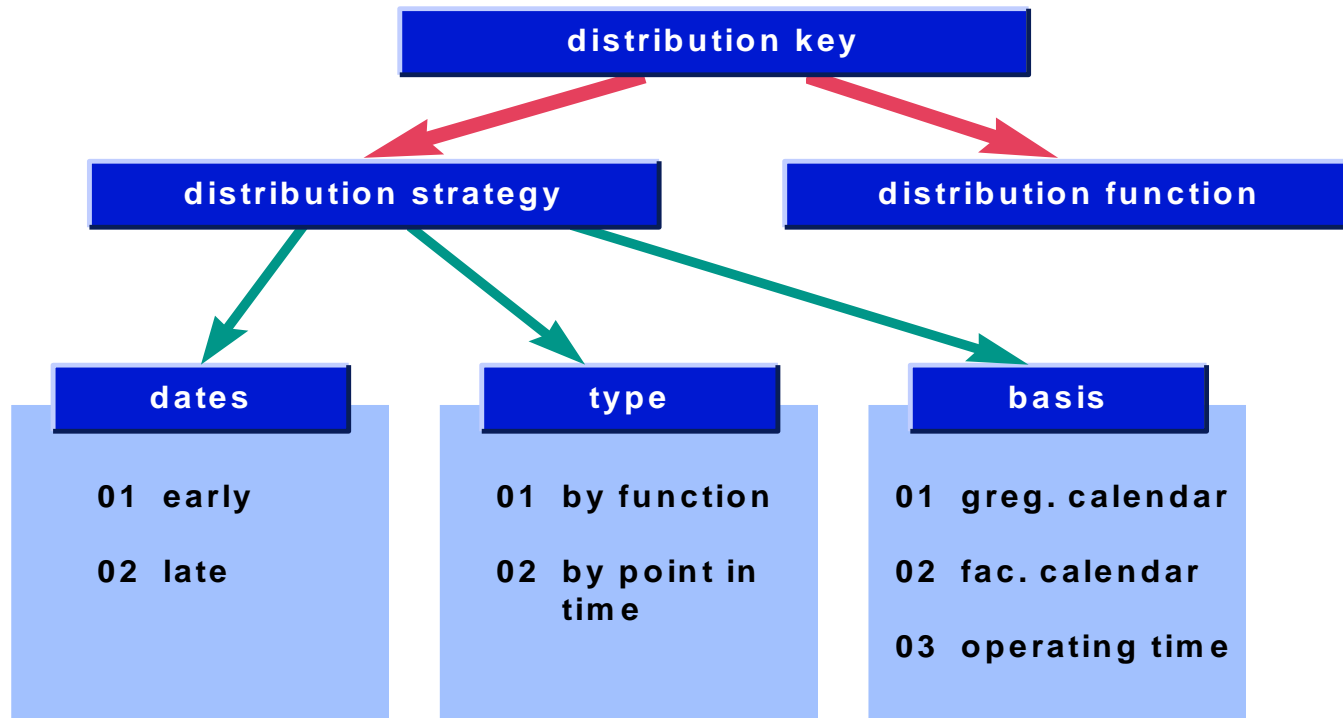
Capacity Planning Phases

Capacity Planning Phases



Distribution

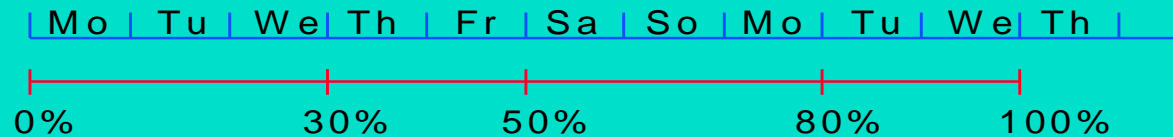
Distribution



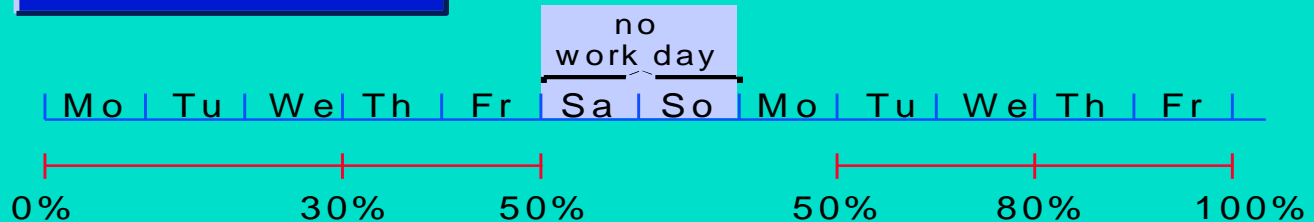
Distribution Basis

Distribution Basis

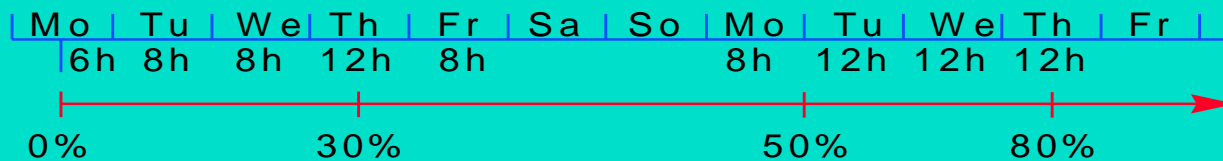
gregorian calendar



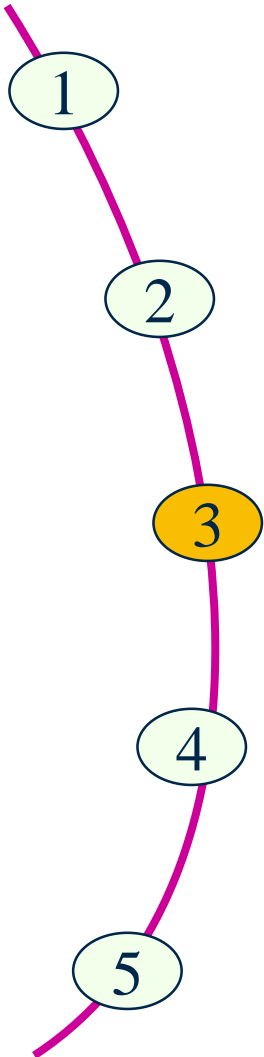
factory calendar



operating time



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Essentials

Work Center Data

general data	basic data 	<ul style="list-style-type: none">◆ name and description◆ standard values key◆ efficiency rate key
default values	default values 	<ul style="list-style-type: none">◆ control key◆ standard text key◆ wage data
capacity data	capacity 	<ul style="list-style-type: none">◆ available capacity◆ formula key◆ individual capacities
scheduling data	scheduling 	<ul style="list-style-type: none">◆ scheduling basis◆ queue and move time◆ formula key
personnel system data	assignments 	<ul style="list-style-type: none">◆ labor / positions◆ qualifications

Capacity Leveling Measures

increase available capacity

alternative work center

date shift

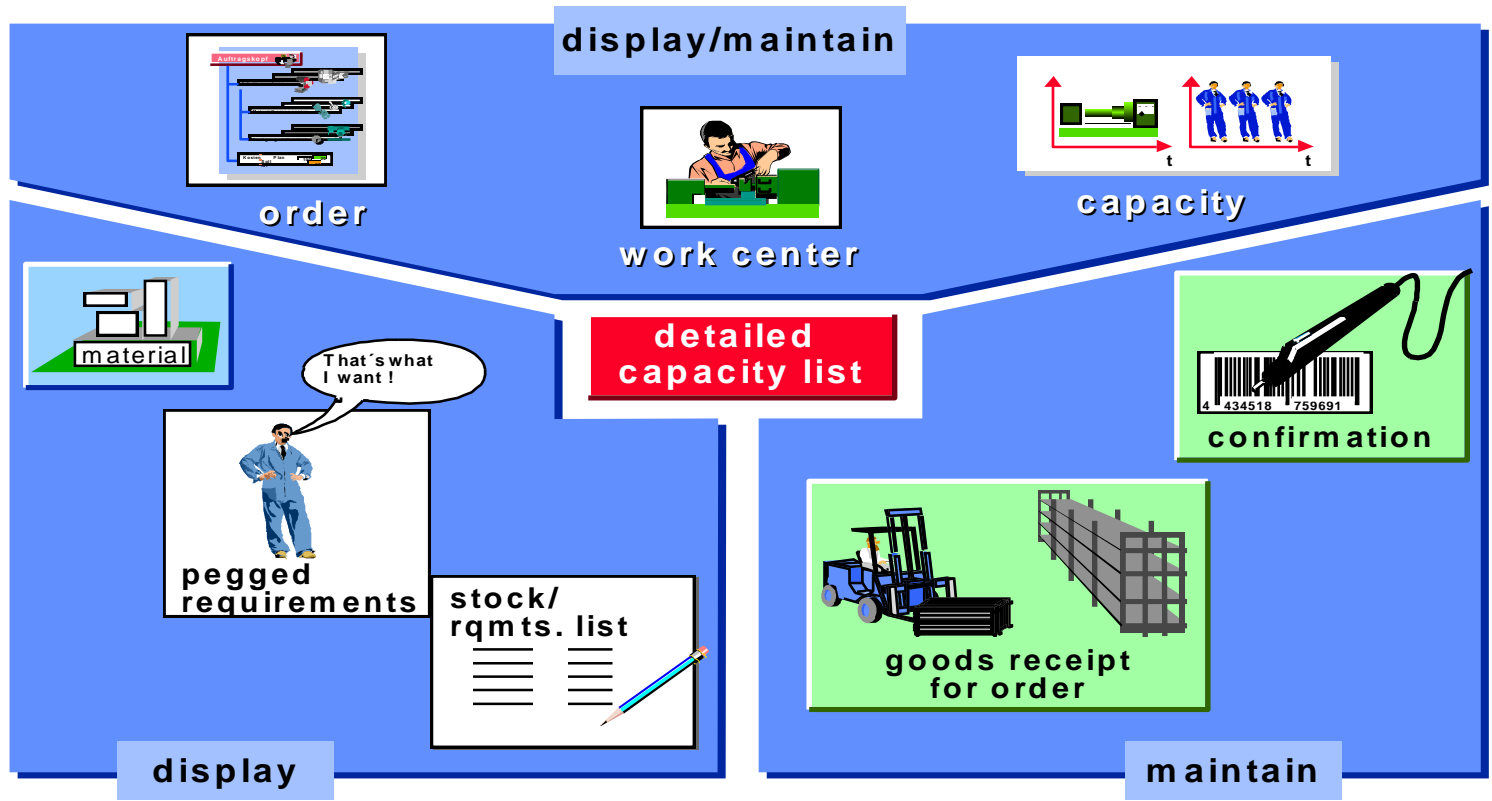
sequence planning

external processing

lot reduction / splitting

Capacity Planning Environment

Capacity Planning Environment



Work Center

Work Center

definition

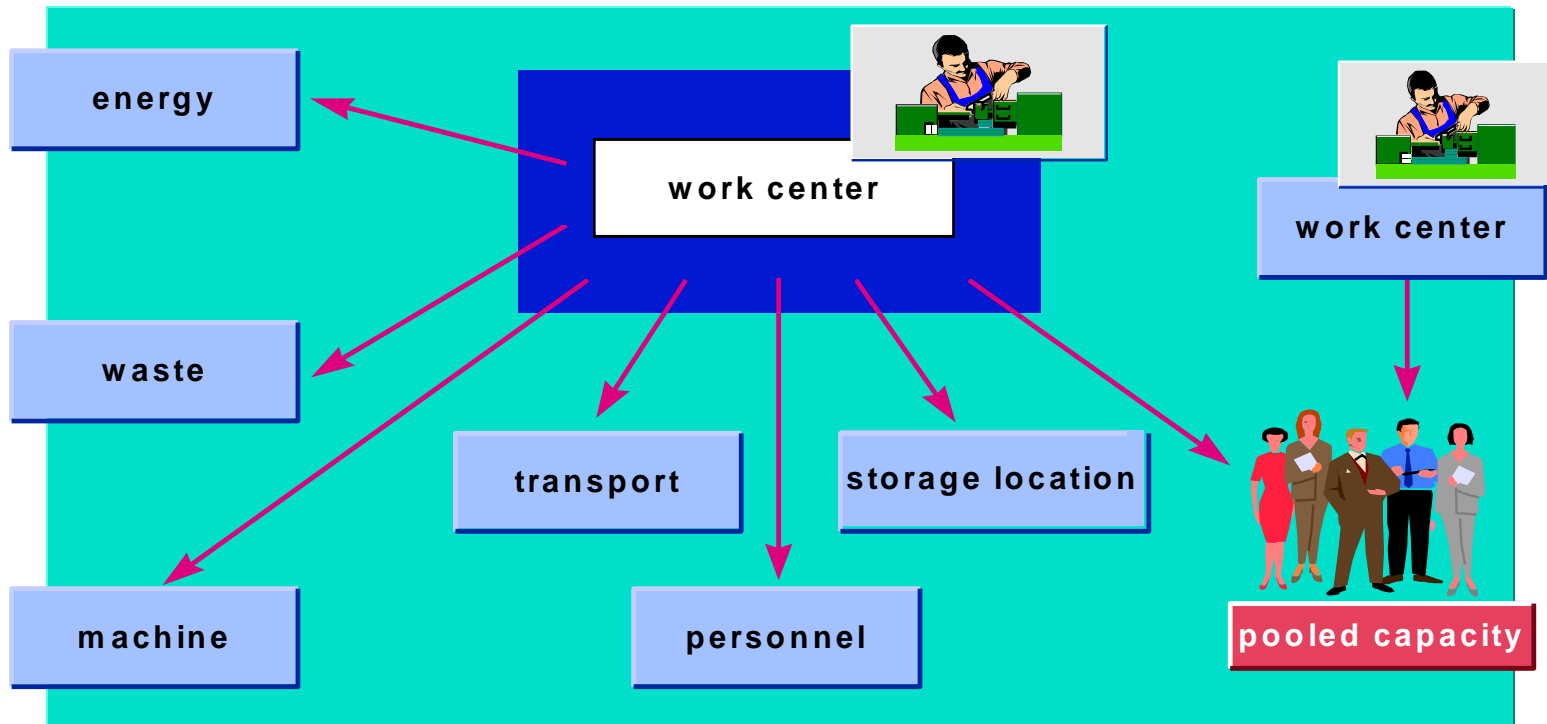
- The available capacity is the work that can be done by a capacity at a work center per working day.
- The available capacity is defined by the start and finish of work, the duration of the breaks, the capacity utilization and the number of individual capacities.

function

- The available capacity forms the basis for:
 - ➔ capacity planning

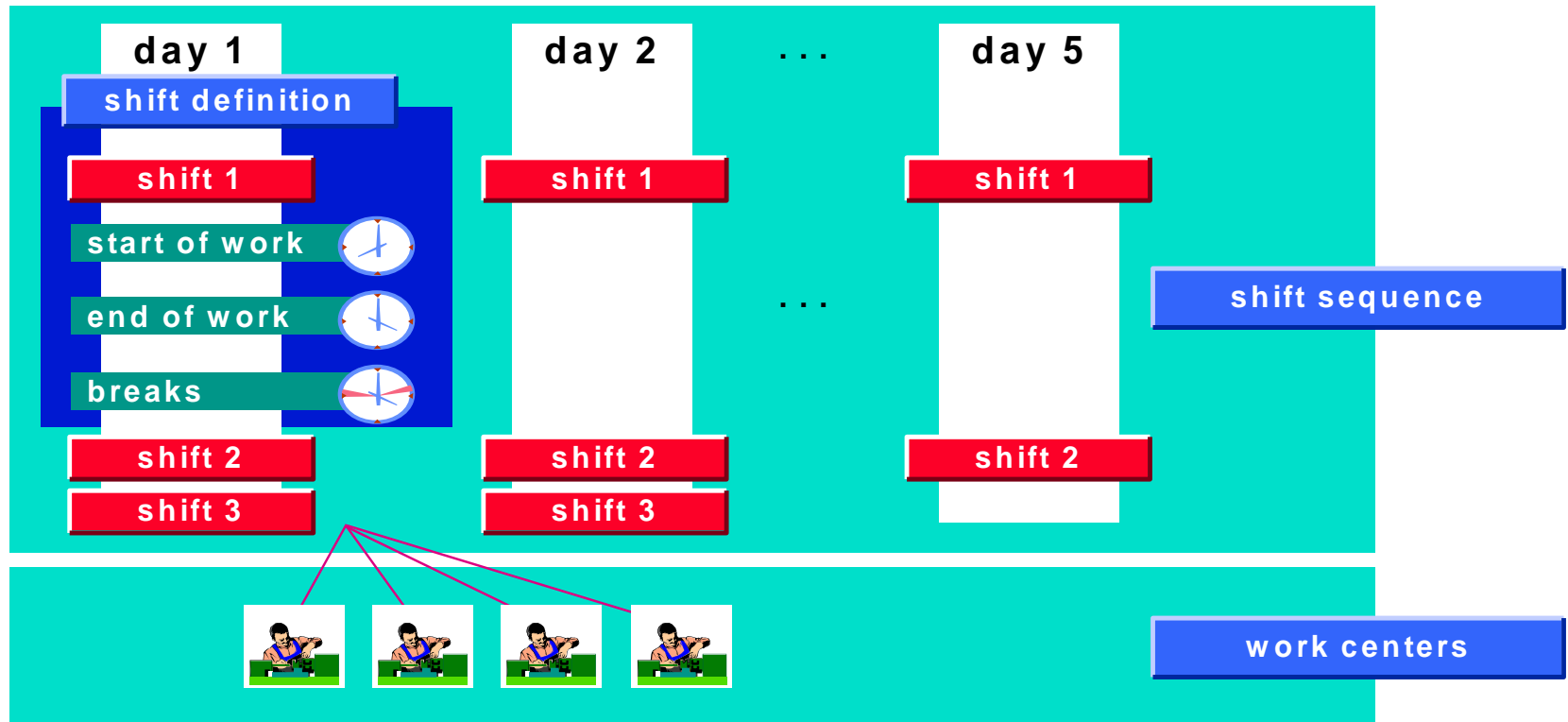
Capacities at a Work Center

Capacities at a Work Center



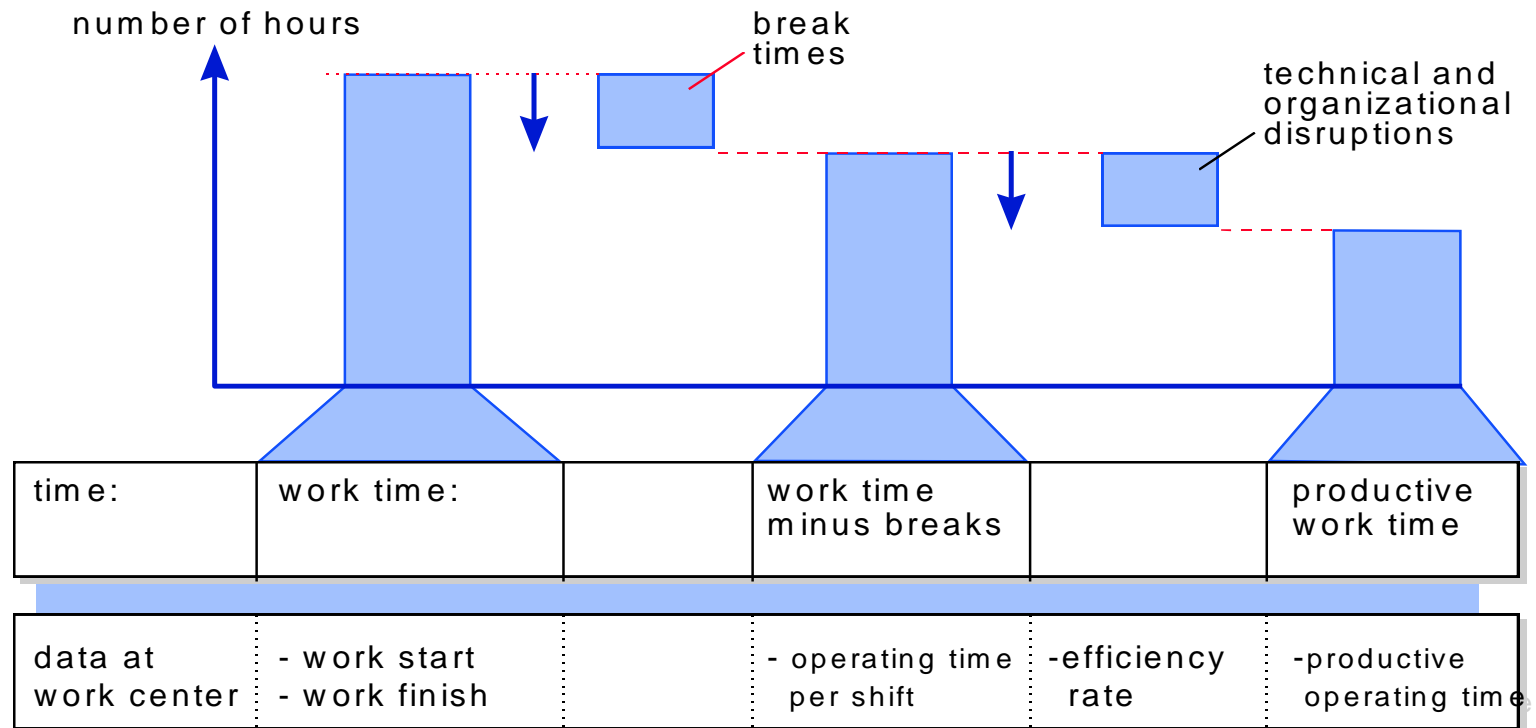
Central Shift Sequence

Maintenance of Available Capacity using Central Shift Sequences



Work Time - Operating Time

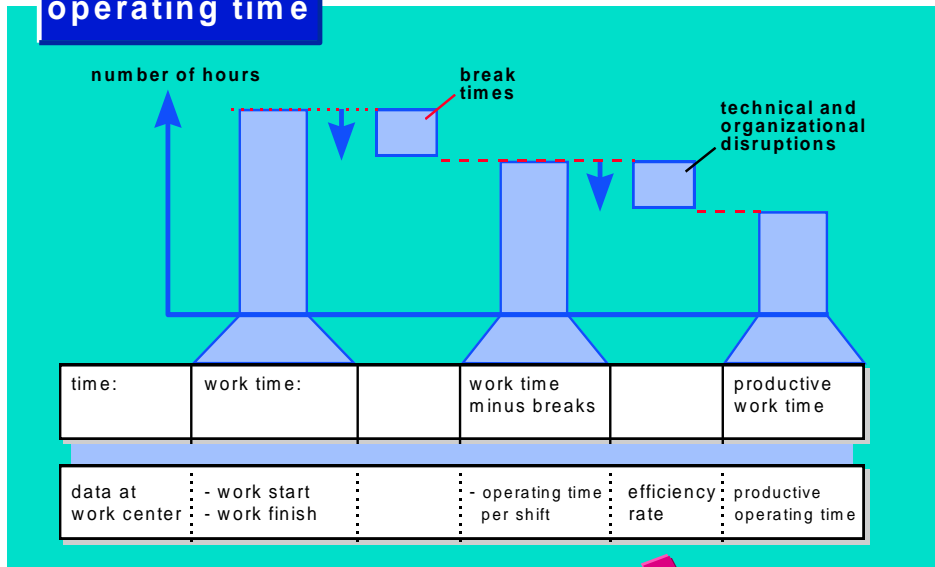
From Work Time to Operating Time



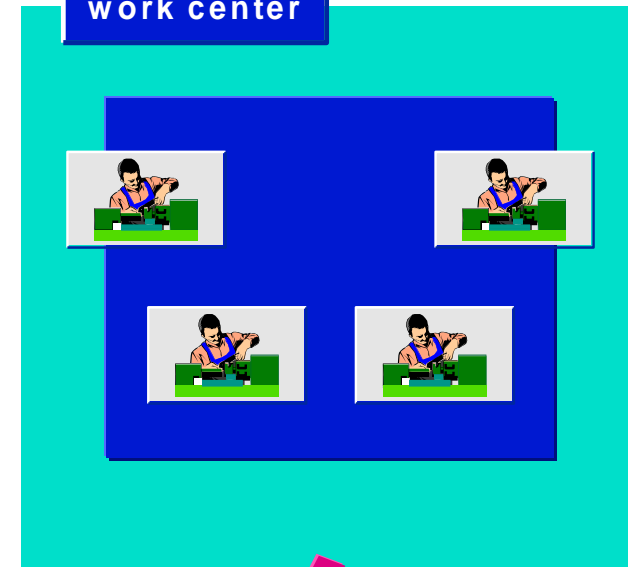
Operating time – Available Capacity

From Operating Time to Available Capacity

operating time



work center



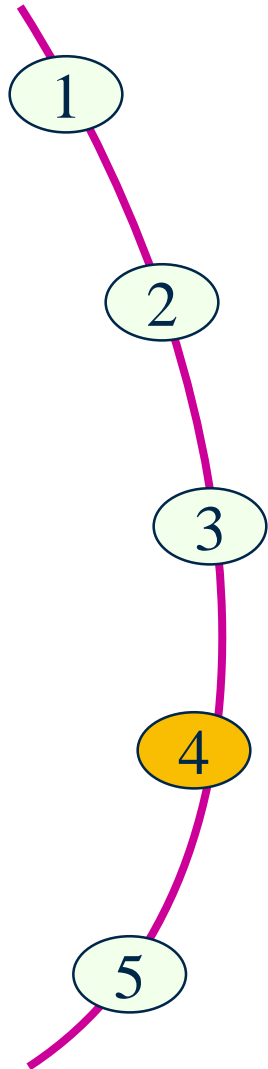
available capacity

productive operating time
per capacity category

X

number of individual capacities

PP Capacity Planning Overview



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Let Me – PP Capacity Planning Overview

Capacity Requirements

Definition

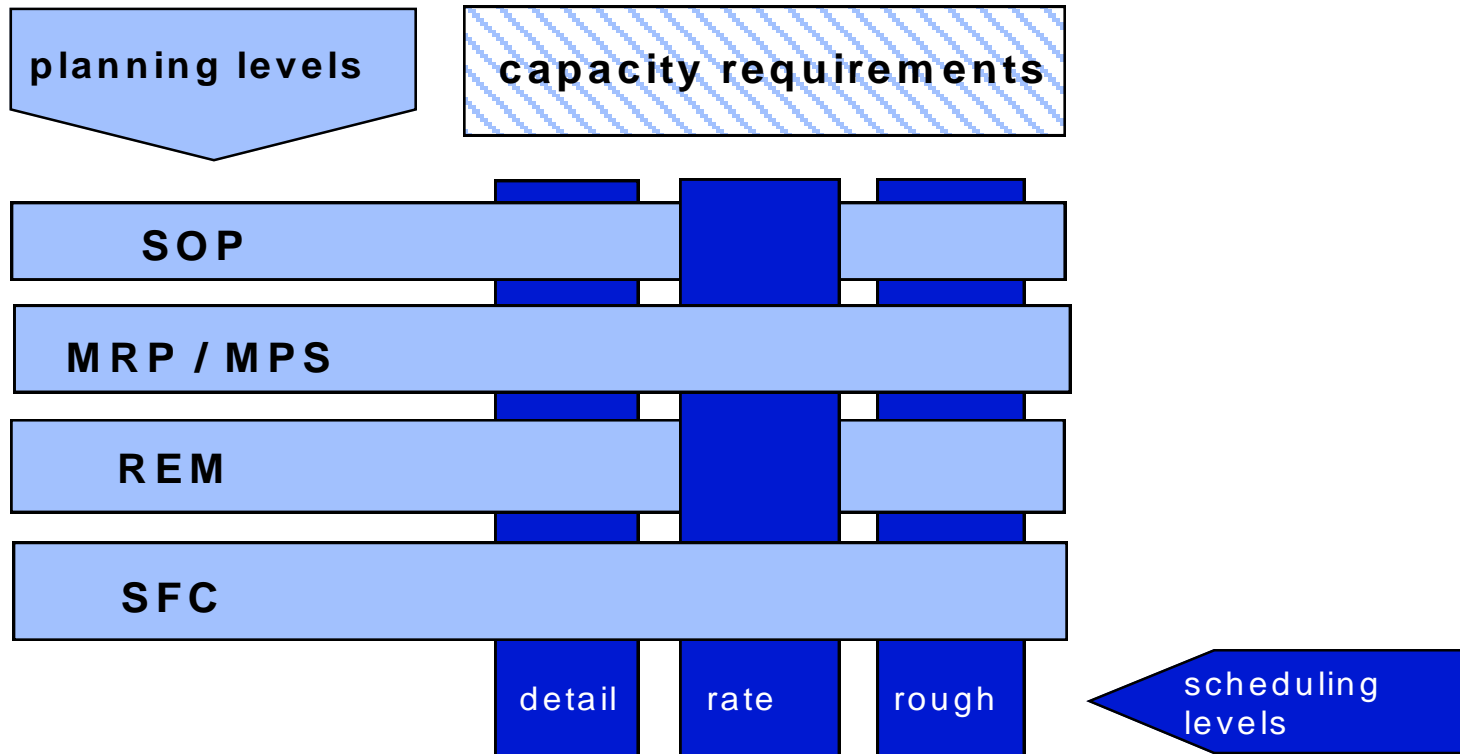
- Required work that arises at a particular work center at a specific point in time because of an order.

Capacity pegged requirements

- planned order
- production order
- run schedule
- network
- inspection order
- maintenance order
- process order

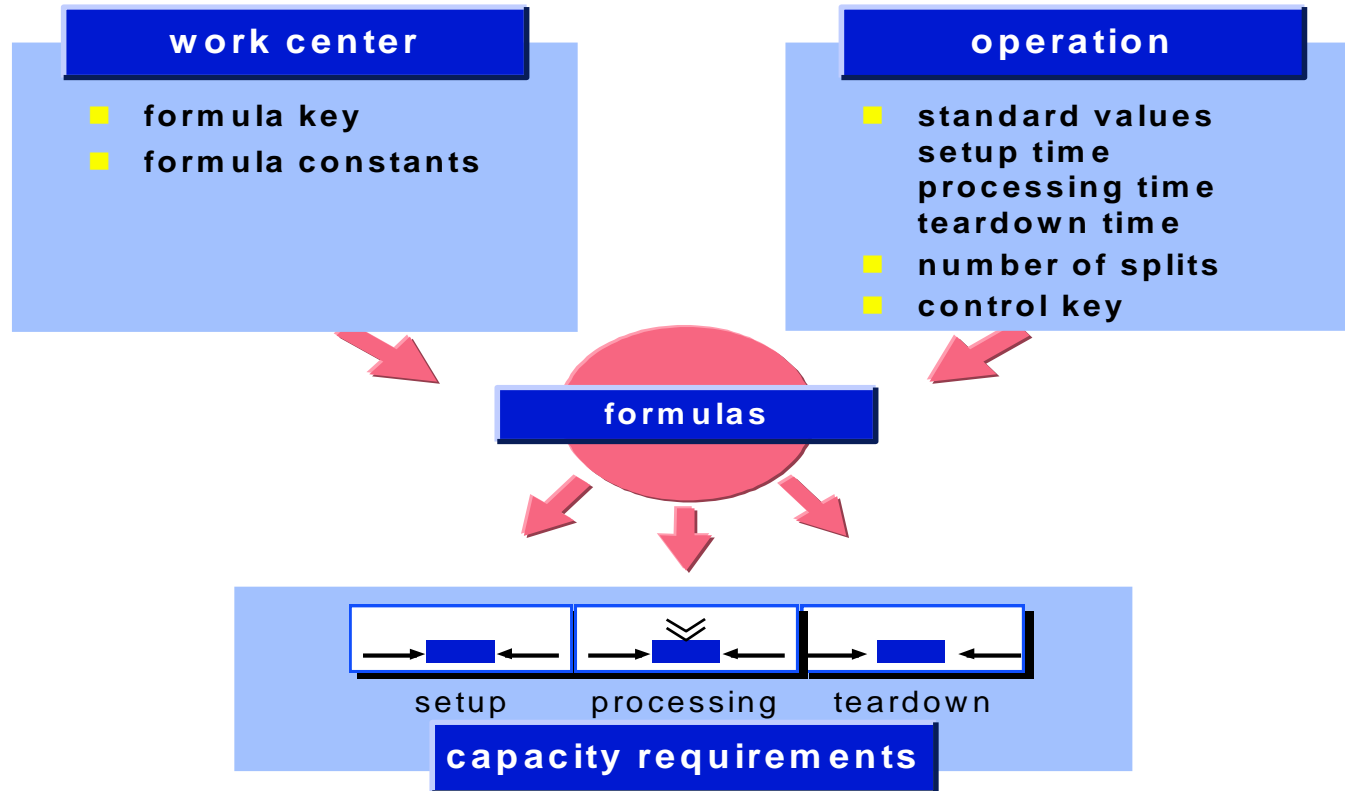
Capacity Requirement Views

View of Capacity Requirements



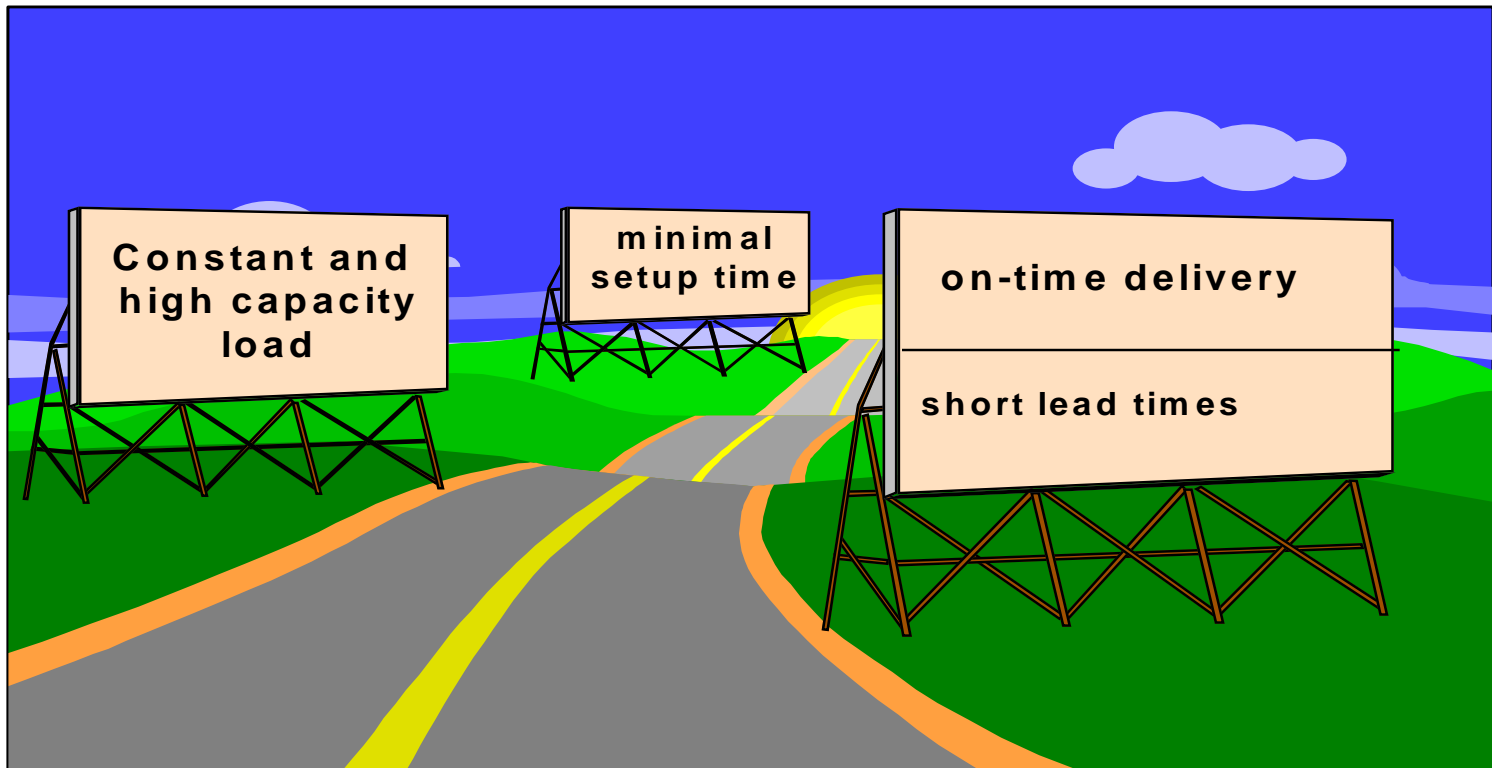
Capacity Req. Determination

Determination of Capacity Requirements



Capacity Leveling

Objectives of Capacity Leveling



Capacity Leveling Measures

Capacity Leveling Measures

increase available capacity

alternative work center

date shift

sequence planning

external processing

lot reduction / splitting

Dispatching of Operations

Dispatching of Operations

determine operations to be dispatched

determine dates for dispatching

sort operations

finite scheduling

check operation dates

midpoint scheduling

Dispatching of Operations

Dispatching of Operations

determine operations to be dispatched

determine dates for dispatching

sort operations

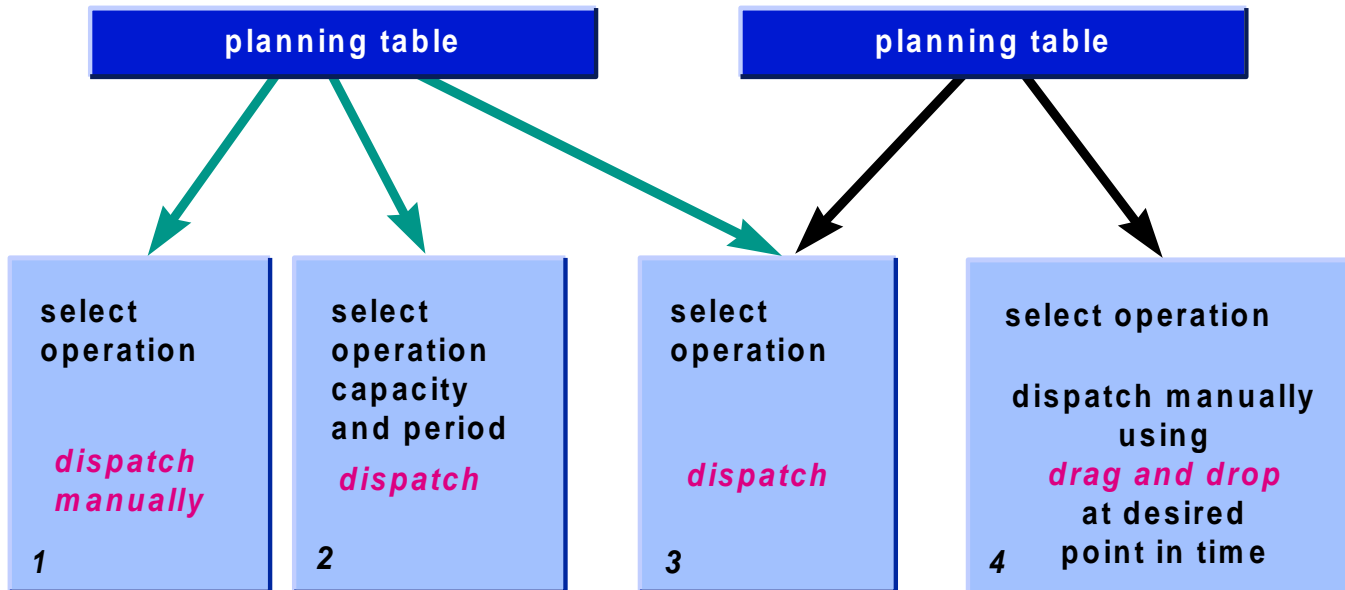
finite scheduling

check operation dates

midpoint scheduling

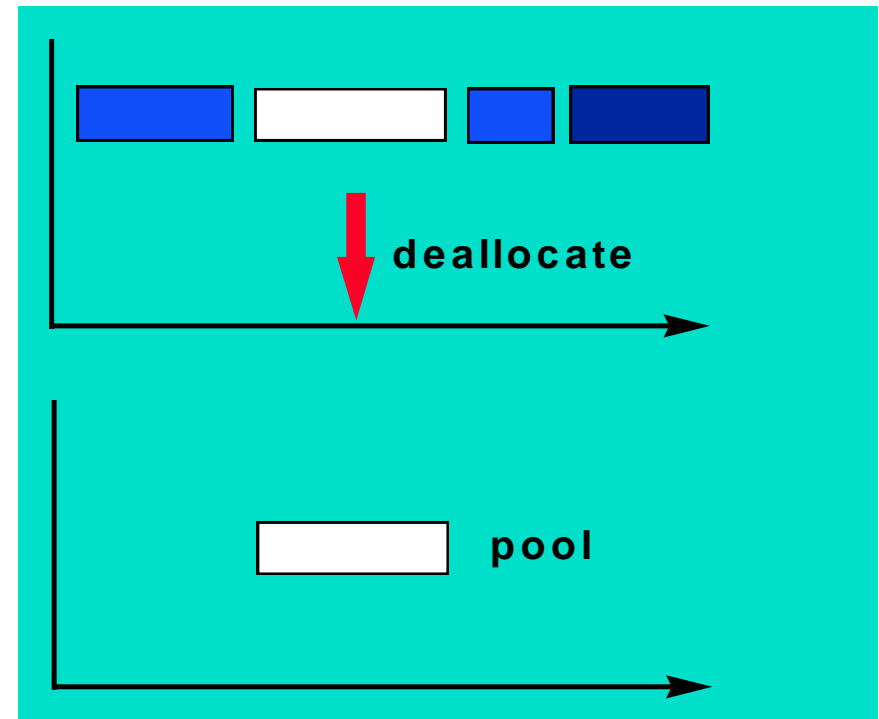
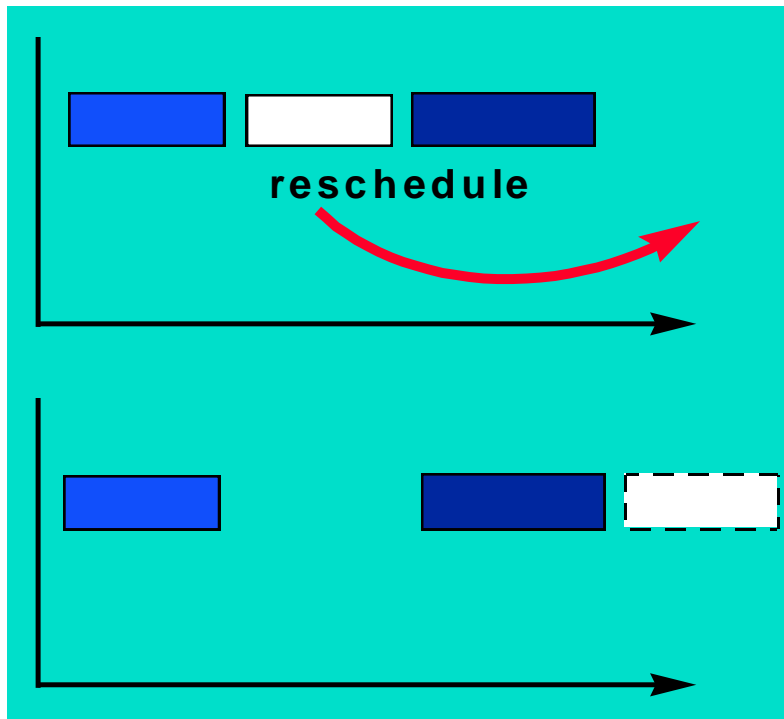
Types of Dispatching

Types of Dispatching



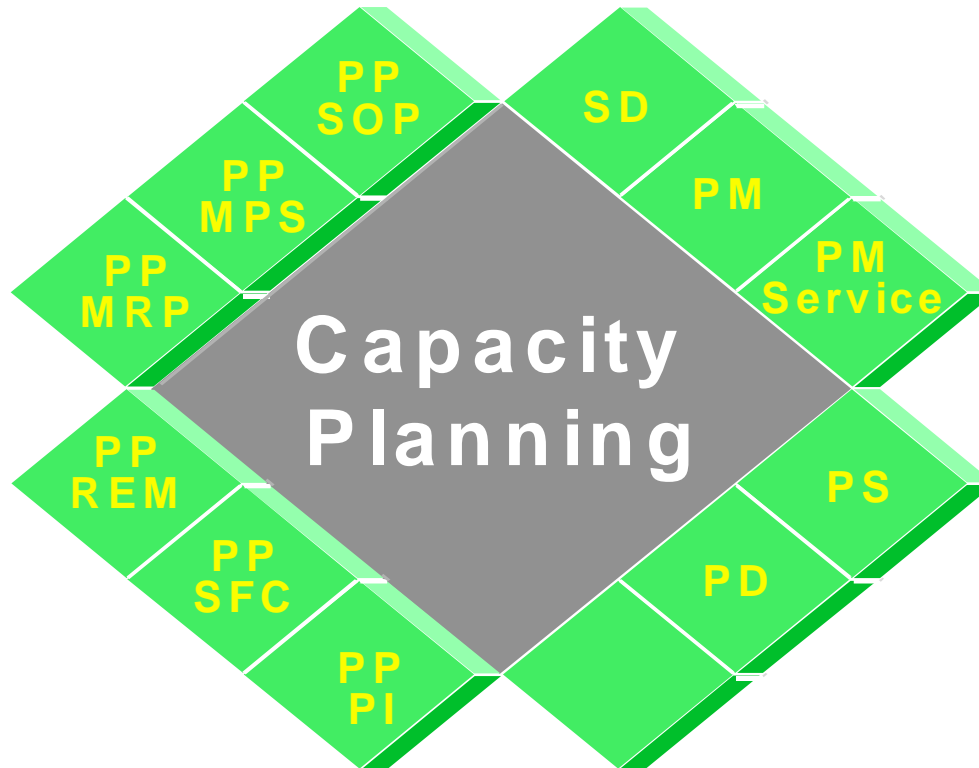
Reschedule / Deallocate

Reschedule / Deallocate



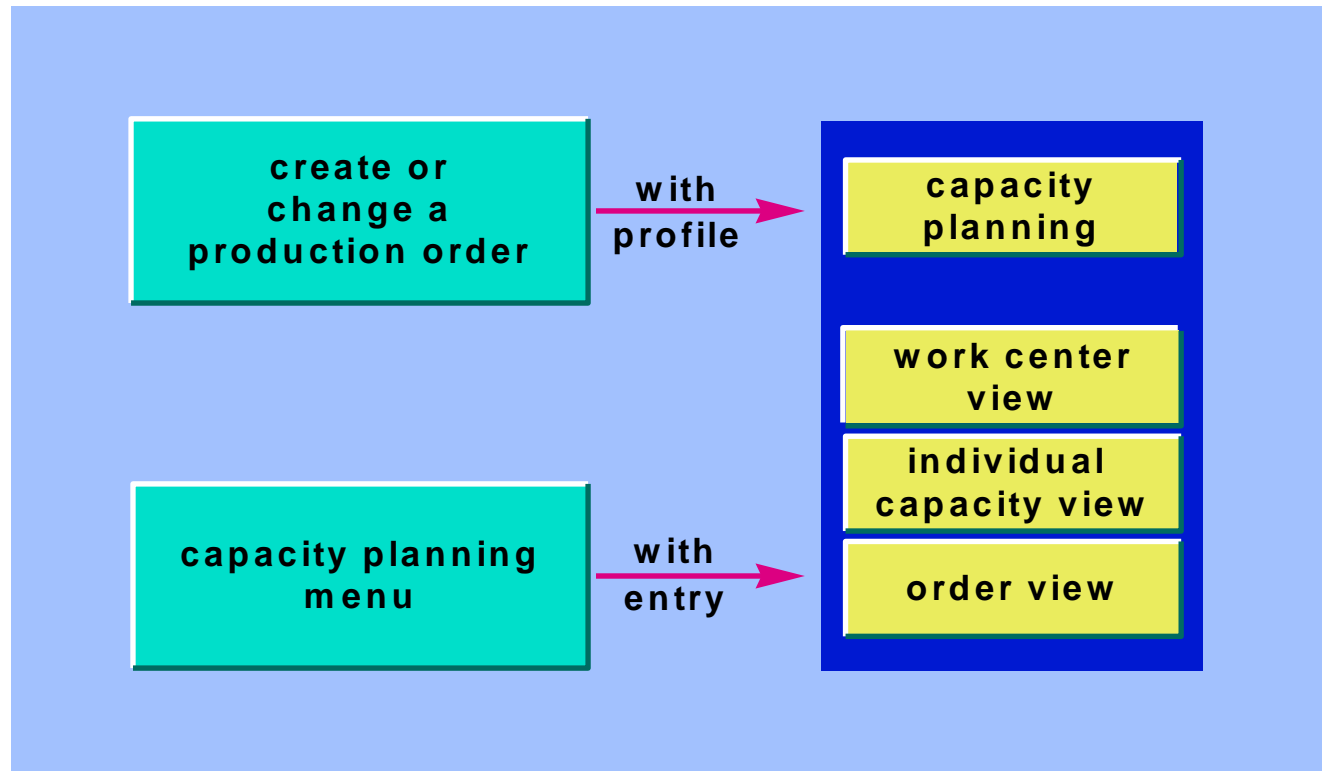
Capacity Planning Integration

Integration of Capacity Planning



Integration - Production Control

Integration: Production Control (SFC)



Capacity Planning

Capacity Planning: Selection

Standard overview Detailed cap. list Variable overview

		Operator
Work Center	TESTPPWC	<input type="checkbox"/>
Capacity Planner Group	001	<input type="checkbox"/>
Plant	1000	<input type="checkbox"/>

Capacity Planning

Capacity Planning: Standard Overview



Cap. details/period

Work center TESTPPWC Test Work Center Plant 1000
Capacity cat.: 001 Machine

Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
<input type="checkbox"/> 06/2015	20.00	16.00	125 %	4.00-	H
<input type="checkbox"/> 07/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 08/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 09/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 10/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 11/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 12/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 13/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 14/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 15/2015	28.00	28.00	100 %	0.00	H
Total >>>	272.00	268.00	102 %	4.00-	H

Capacity Planning

Capacity Planning: Standard Overview








Cap. details/period

Work center TESTPPWC Test Work Center Plant 1000
Capacity cat.: 001 Machine





Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
<input type="checkbox"/> 06/2015	20.00	16.00	125 %	4.00-	H
<input type="checkbox"/> 07/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 08/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 09/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 10/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 11/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 12/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 13/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 14/2015	28.00	28.00	100 %	0.00	H
<input type="checkbox"/> 15/2015	28.00	28.00	100 %	0.00	H
Total >>>	272.00	268.00	102 %	4.00-	H

Capacity Leveling

Capacity Leveling

 Change time profile

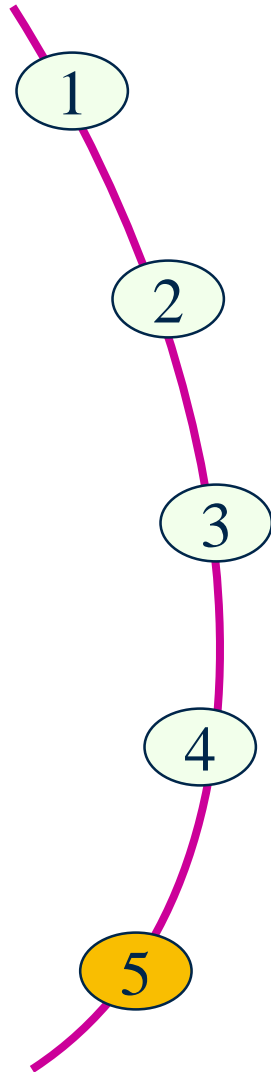
Objects

Work center	TESTPPWC	to	<input type="text"/>	
Plant	1000	to	<input type="text"/>	
Capacity category	001	to	<input type="text"/>	
Capacity planner grp	001	to	<input type="text"/>	

Capacity Leveling

Planning Table: SAPCRPG001 Finite scheduling forw./all functs.activ									
GrafObj. Capacity Order Operation Strategy Plan.log.									
Work Centers									
Work ctr	Cap.cat	Wk.cntr.descripti	February'15						
			V 06	CW 07	CW 08	CW 09	CW 10	CW 11	
TESTPPW	001	Test Work Center							
Orders (dispatched)									
Spl	Material	Prio	Order	February'15					
				V 06	CW 07	CW 08	CW 09	CW 10	CW 11
Orders (pool)									
Spl	Material	Prio	Order	February'15					
				V 06	CW 07	CW 08	CW 09	CW 10	CW 11
0	TEST-QM		1000466	Material master					

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References – Table info

PP Capacity Planning Overview is distributed in following tables

- KBKO Header record for capacity requirements
- KBED Capacity requirements records
- CRCA Work center capacity

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Q & A



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THANK YOU

