

## 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

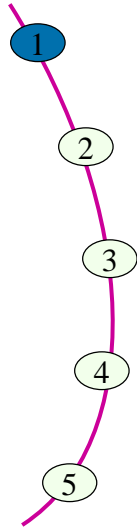
## Training Agenda



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

Add instructor notes  
here.

## PP Capacity Planning Overview



Prepare Me

Tell Me

Show Me

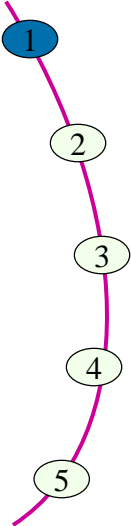
Let Me

Help Me

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### PP Capacity Planning Overview



Prepare Me

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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.

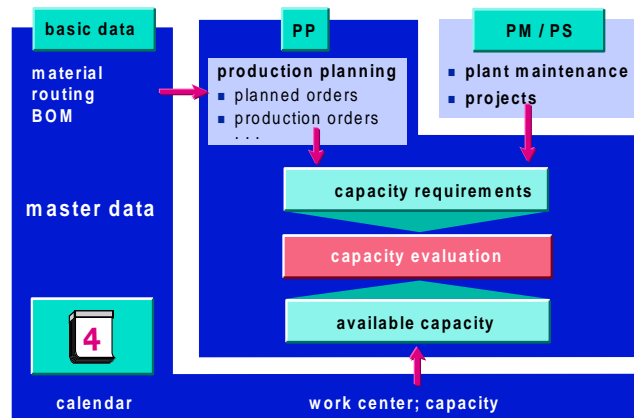
### Capacity leveling

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

## Capacity Planning Environment



### Capacity Planning Environment

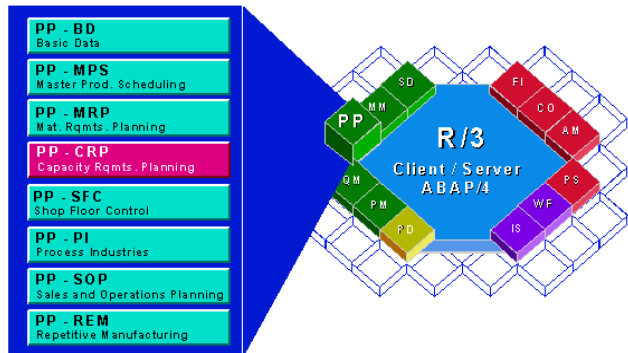




## Integration Of Capacity Planning



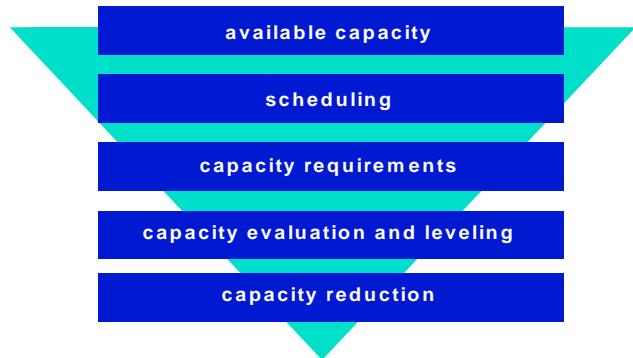
### Integration of Capacity Planning



## 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.

## Use



### 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.

## Use



### **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

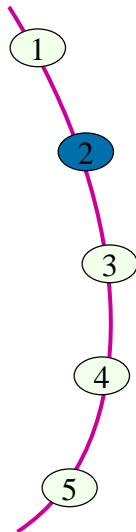
## Challenges



### **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



Prepare Me

**Tell Me**

Show Me

Let Me

Help Me

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Tell Me



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

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## 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



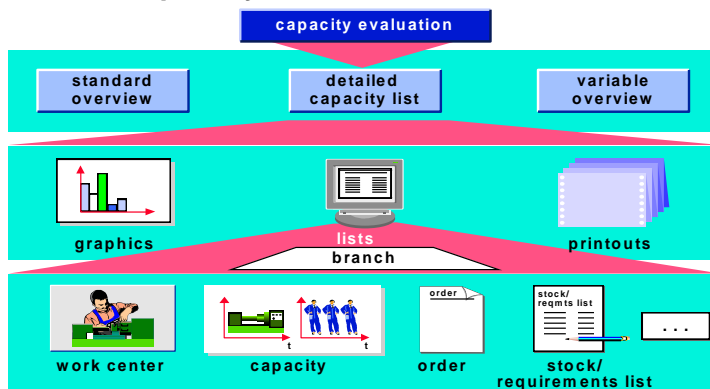
### Capacity Evaluation

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

## Capacity List and Functions



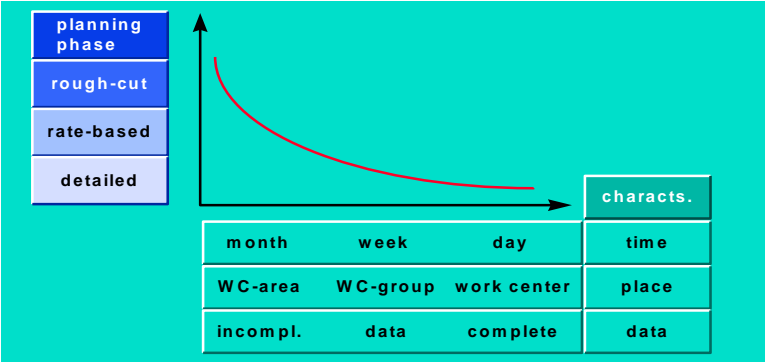
### Detailed Capacity List and its Functions



# Capacity Planning Phases



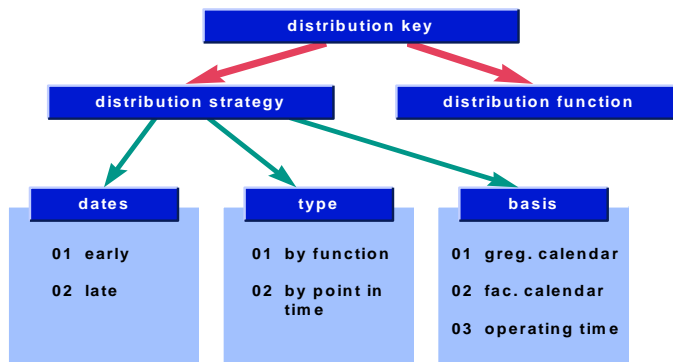
## Capacity Planning Phases



## Distribution



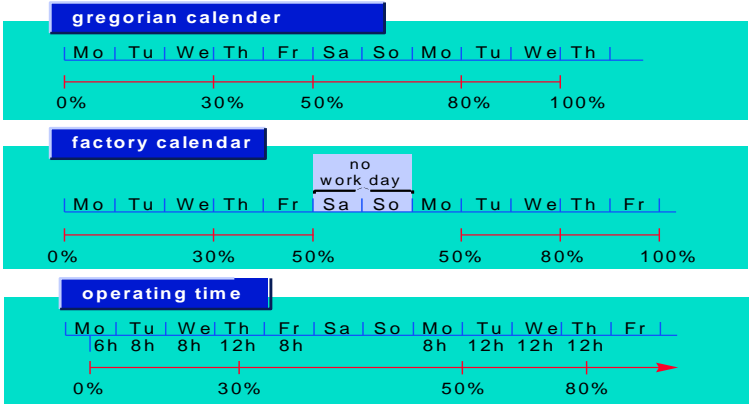
### Distribution



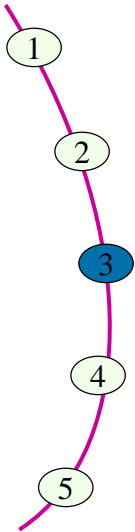
Distribution Basis



Distribution Basis




### PP Capacity Planning Overview



1	Prepare Me
2	Tell Me
3	Show Me
4	Let Me
5	Help Me

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## Essentials



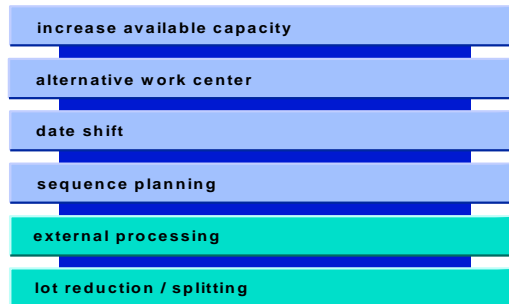
### Work Center Data

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

## Essentials



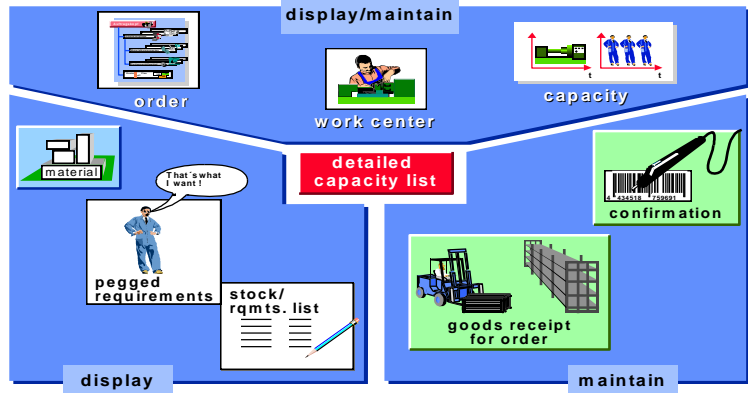
### Capacity Leveling Measures



## Capacity Planning Environment



### Capacity Planning Environment



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## 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.

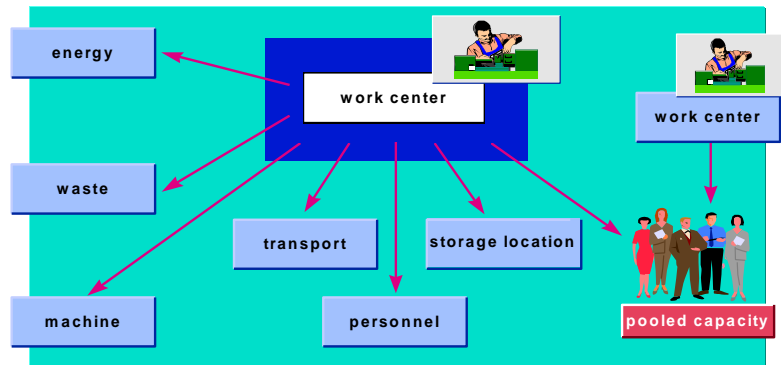
#### function

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

## Capacities at a Work Center

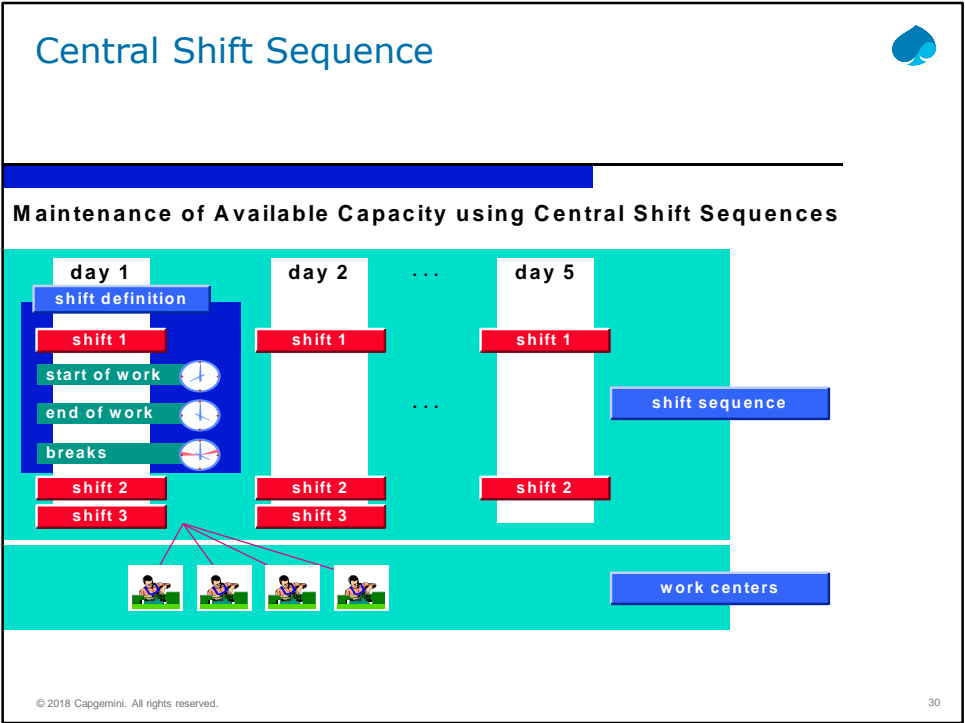


### Capacities at a Work Center

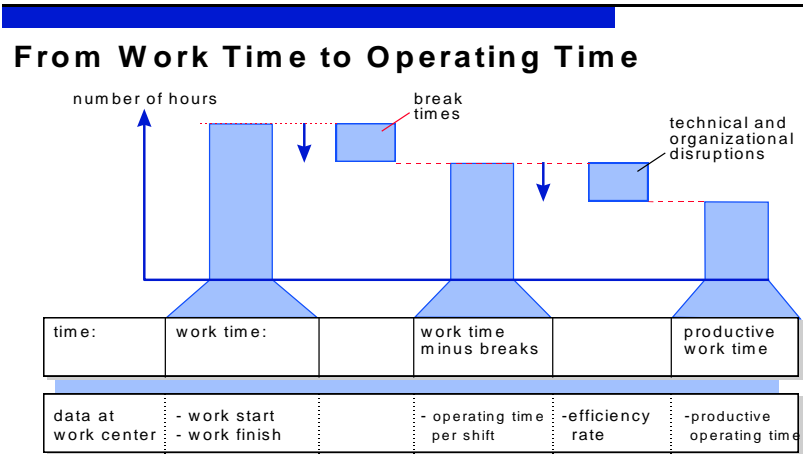


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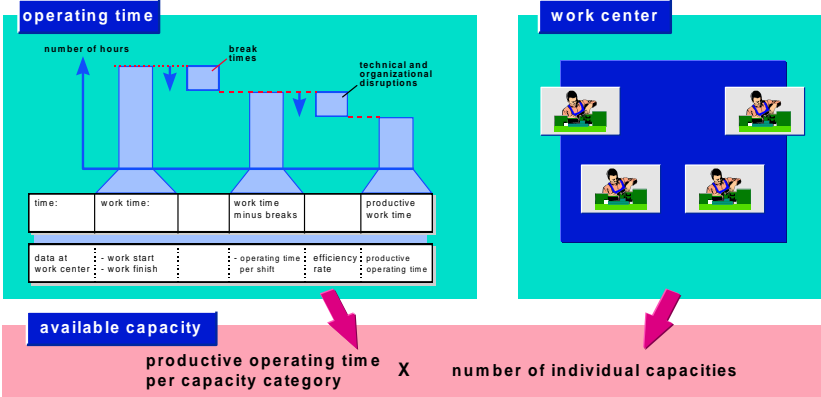
Work Time - Operating Time



# Operating time – Available Capacity

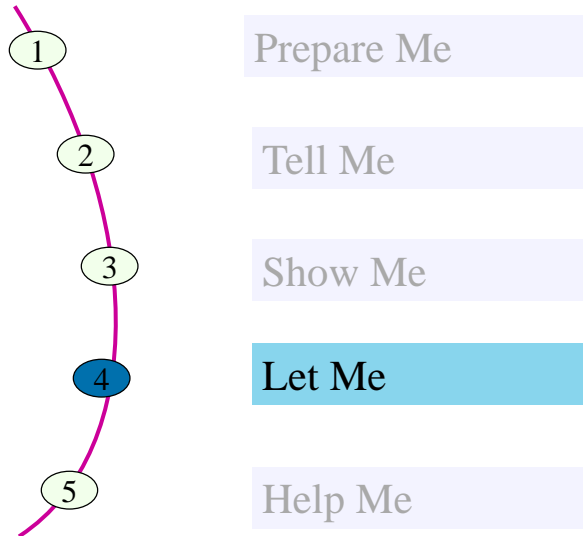


## From Operating Time to Available Capacity





## 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.

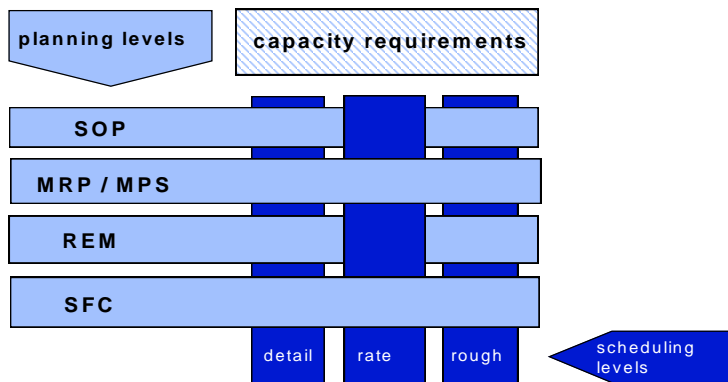
#### Capacity pegged requirements

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

## Capacity Requirement Views



### View of Capacity Requirements



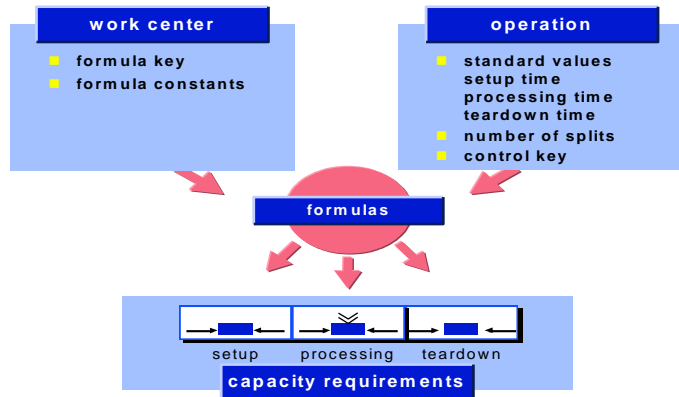
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## Capacity Req. Determination



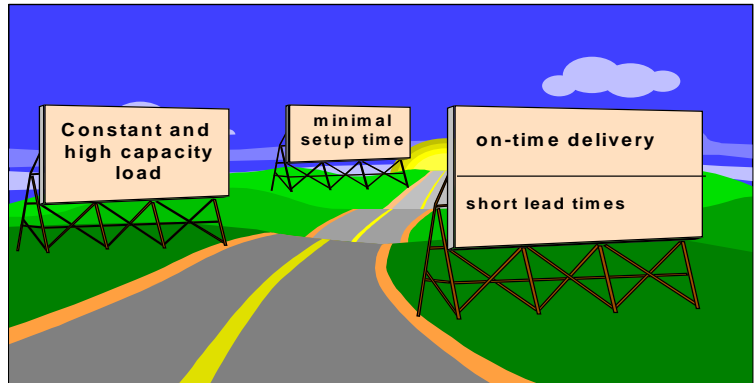
### Determination of Capacity Requirements



## Capacity Leveling



### Objectives of Capacity Leveling



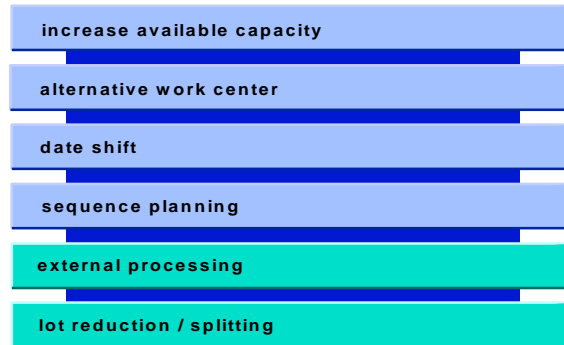
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## Capacity Leveling Measures



### Capacity Leveling Measures



## Dispatching of Operations



### Dispatching of Operations



## Dispatching of Operations



### Dispatching of Operations

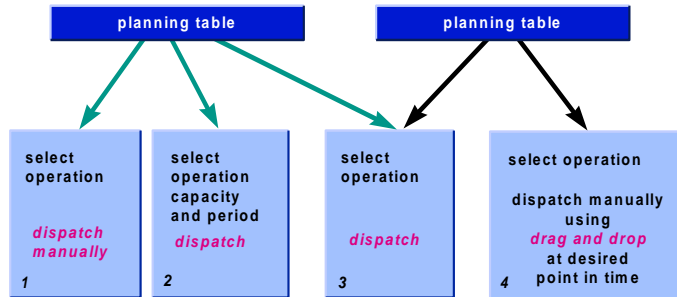




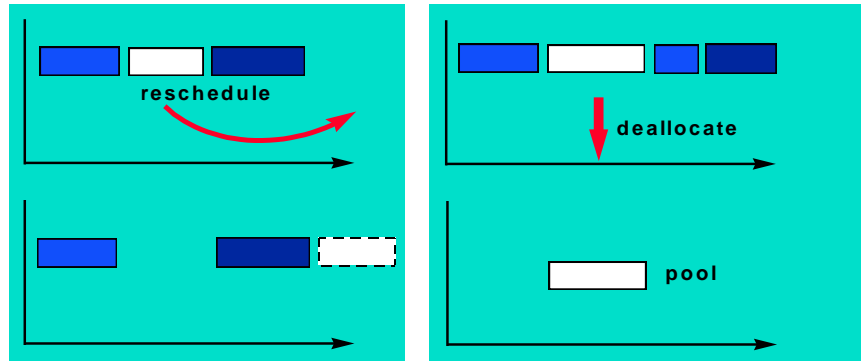
## Types of Dispatching



### Types of Dispatching



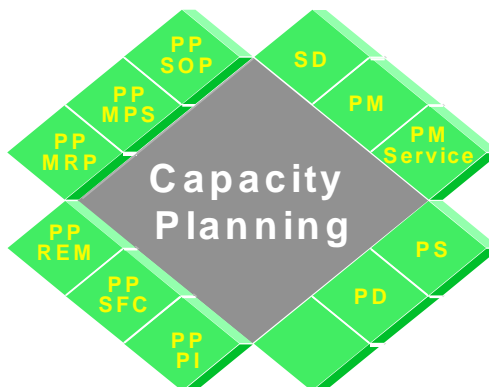
## Reschedule / Deallocate

**Reschedule / Deallocate**

## Capacity Planning Integration



### Integration of Capacity Planning



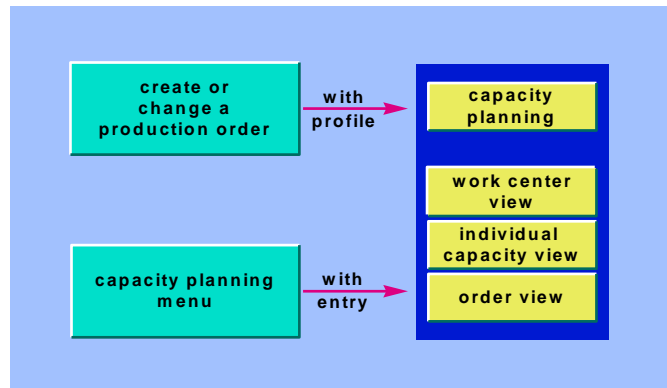
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## Integration - Production Control



### Integration: Production Control (SFC)



# Capacity Planning



Capacity Planning: Selection

Standard overviewDetailed cap. listVariable 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 centerTESTPPWC

Test Work Center

Plant1000

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 centerTESTPPWC

Test Work Center

Plant1000

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	TESTPWC	to		
Plant	1000	to		
Capacity category	001	to		
Capacity planner grp	001	to		



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.cntn.descripti	February'15					
TESTPPW	001	Test Work Center	V 06	CW 07	CW 08	CW 09	CW 10	CW 11

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					
0	TEST-QM		1000466	V 06	CW 07	CW 08	CW 09	CW 10	CW 11

### PP Capacity Planning Overview

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graph TD; 1((1)) --- 2((2)); 2 --- 3((3)); 3 --- 4((4)); 4 --- 5((5)); 1 --- P1[Prepare Me]; 2 --- P2[Tell Me]; 3 --- P3[Show Me]; 4 --- P4[Let Me]; 5 --- P5[Help Me]; style 5 fill:#0056b3,color:#fff; style P5 fill:#00a0e3,color:#fff;
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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