

Dependencies Constraints

Dependencies are one of the constraints that can be defined when determining the alternatives to be funded in Resource Allocation.

You can display the dependencies in **Table** or **List** view.

Dependencies are displayed in the Table view by default as shown below:

The screenshot shows the 'ALLOCATE' tab of the Expert Choice software. At the top, there are navigation buttons: MANAGE MODELS, DEFINE MODEL, COLLECT INPUT, SYNTHESIZE, ALLOCATE (selected), and REPORTS. Below these, there are controls for the scenario (Default Scenario), a List View toggle (which is turned off), a 'D Depends On' button, and a 'Clear All' button. The main area is a grid titled 'Dependencies for scenario "Default Scenario"'. The grid has 15 columns and 15 rows, each representing a different resource alternative. The cells in the grid are shaded gray, indicating dependencies. The dependencies shown are: 1.AS/400 Replacements depends on 1.AS/400 Replacements; 2.Cisco Routers depends on 1.AS/400 Replacements; 3.Customer Service Call Center depends on 2.Cisco Routers; 4.Desktop Replacements depends on 3.Customer Service Call Center; 5.EMC Symmetrix depends on 4.Desktop Replacements; 6.Firewall and Antivirus Licenses depends on 5.EMC Symmetrix; 7.Iron Mountain Backup Service depends on 6.Firewall and Antivirus Licenses; 8.Laptop Replacements depends on 7.Iron Mountain Backup Service; 9.Mobile Workforce Pocket PCs depends on 8.Laptop Replacements; 10.Oracle 9i Upgrade depends on 9.Mobile Workforce Pocket PCs; 11.PeopleSoft Upgrade depends on 10.Oracle 9i Upgrade; 12.Plumtree Corporate Portal depends on 11.PeopleSoft Upgrade; 13.ProServ System Upgrade depends on 12.Plumtree Corporate Portal; 14.Sales Force Laptops depends on 13.ProServ System Upgrade; and 15.Sales Site depends on 14.Sales Force Laptops. There is an 'X' in the cell for 8.Laptop Replacements depending on 14.Sales Force Laptops. At the bottom of the interface, there is a status bar with the URL 'https://chigamma.expertchoice.com/', a button for 'Advanced mode is OFF', and version information: 'Version: 6.0.013.38951 © 2007-2020 Expert Choice, Inc. All Rights Reserved'.

NAME	1.AS/400 Replacements	2.Cisco Routers	3.Customer Service Call Center	4.Desktop Replacements	5.EMC Symmetrix	6.Firewall and Antivirus Licenses	7.Iron Mountain Backup Service	8.Laptop Replacements	9.Mobile Workforce Pocket PCs	10.Oracle 9i Upgrade	11.PeopleSoft Upgrade	12.Plumtree Corporate Portal	13.ProServ System Upgrade	14.Sales Force Laptops	15.Sales Site
1.AS/400 Replacements	D														
2.Cisco Routers		D													
3.Customer Service Call Center			D												
4.Desktop Replacements				D											
5.EMC Symmetrix					D										
6.Firewall and Antivirus Licenses						D									
7.Iron Mountain Backup Service							D								
8.Laptop Replacements								D							X
9.Mobile Workforce Pocket PCs									D						
10.Oracle 9i Upgrade										D					
11.PeopleSoft Upgrade											D				
12.Plumtree Corporate Portal												D			
13.ProServ System Upgrade													D		
14.Sales Force Laptops														D	
15.Sales Site															D

The "List View" will be ON by default (grid view is disabled) when the system detects so many alternatives as to make the grid view slow or to hang up.

By clicking on the intersecting cell of the column and row, you can specify one of the three dependencies between controls in the Resource Allocation process:

- **D (Depends on)** – the row alternative depends upon the column alternative. The optimization assures that the row alternative is not funded unless the column alternative is funded. When there are Time Periods, the "depends on" dependency can either be **concurrent** or **non-concurrent**. **Concurrent** means that the row and column alternative can be funded at the same period, while non-concurrent is not.
- **M (Mutually dependent)** – the row and the column are mutually dependent; both must be funded or neither is funded.
- **X (Mutually Exclusive)**– the row and the column are mutually exclusive; funding one precludes funding the other.

The clicked cell will display any of the letters explained above (**D, M, X**) depending on the currently selected dependency type (or clear to remove) on the button at the top.

D Depends On

- D** Depends On
- M** Mutually Dependent
- X** Mutually Exclusive

🗑️ Clear Cell

Alternatively, you can right-click on a cell and then select the dependency you want to define for that row and column controls:

Alternatives	1. AS/400 Replacem	2. Cisco Routers	3. Customer Service Call Center	4. Desktop Replacem	5. EMC Symmetrix	6. Firewall and Antivirus Licenses	7. Iron Mountain Backup Service	8. Laptop Replacem	9. Mobile Workforce Pocket PCs	10. Oracle 9i Upgrade	11. PeopleSoft Upgrade	P Co
1. AS/400 Replacements												
2. Cisco Routers												
3. Customer Service Call Center												
4. Desktop Replacements												
5. EMC Symmetrix												
6. Firewall and Antivirus Licenses												
7. Iron Mountain Backup Service												

right-click on a cell to see the context-menu

D 5. EMC Symmetrix **Depends On** 4. Desktop Replacements

M 5. EMC Symmetrix **and** 4. Desktop Replacements **are Mutually Dependent**

X 5. EMC Symmetrix **and** 4. Desktop Replacements **are Mutually Exclusive**

🗑️ Clear

The row and column alternatives are being highlighted with yellow as you hover on their intersecting cells.

Toggle the List View switch **List View:** to display the dependencies list view:

Dependencies for scenario "Default Scenario"

Depends On

"10. Oracle 9i Upgrade" Depends On "5. EMC Symmetrix"

+

Mutually Dependent

"5. EMC Symmetrix" and "15. SRDF Site/Service" are Mutually Dependent

+

Mutually Exclusive

"14. Sales Force Laptops" and "8. Laptop Replacements" are Mutually Exclusive

"12. Plumtree Corporate Portal" and "13. ProServe System Upgrade" are Mutually Exclusive

+

Here you see the existing dependencies in a "statement" format.

Click the **+** icon to add a new dependency.

Click the **▾** to see options to edit and delete.

