



DRAKONTAS

# DRAGONFORCE

---

**DRAGONFORCE SCALABILITY AND DEPARTMENTAL  
BUSINESS LOGIC CAPABILITIES**

# CONTENTS

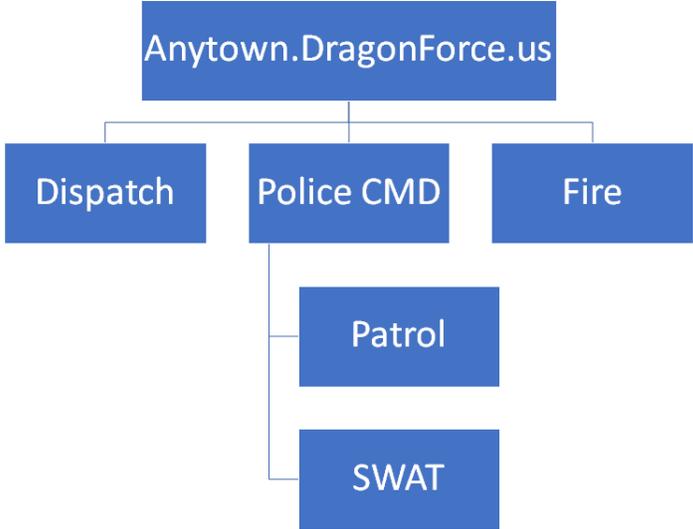
- SECTION 1 | DRAGONFORCE SCALABILITY AND DEPARTMENTAL BUSINESS LOGIC CAPABILITIES ..... 3**
  - FIGURE-1: DEPARTMENT STRUCTURE OF THE ANYTOWN DRAGONFORCE DEPLOYMENT ..... 3
- SECTION 2 | TRUTH TABLE..... 4**
  - FIGURE-2.1: TRUTH TABLE GOVERNING THE DEPARTMENT RELATIONSHIPS FOR ANYTOWN DEPLOYMENT ..... 4
  - FIGURE-2.2: DECODING TRUTH TABLE CELL VALUES..... 5
- SECTION 3 | CROSS-DEPARTMENT USER PERMISSIONS ..... 5**
  - THE DUAL KEY APPROACH TO MANAGING CROSS DEPARTMENT USERS AND INFORMATION ..... 6
  - FIGURE-3: CROSS-DEPARTMENT USER PERMISSIONS ..... 6
- SECTION 4 | CONTACTS & REFERENCES ..... 9**



# SECTION 1 | DRAGONFORCE SCALABILITY AND DEPARTMENTAL BUSINESS LOGIC CAPABILITIES

A DragonForce deployment can consist of an unlimited number of Departments and Sub-Departments to match the customer’s organizational structure no matter how large or complex that structure may be. This allows DragonForce to service enterprise scale deployments consisting of tens of thousands of users distributed across hundreds of departments and sub-departments. As shown in Figure-1, the department structure for Anytown.DragonForce.us is comprised of three root departments: Dispatch, Police CMD and Fire, where the Police CMD departments contain two additional sub-departments: Patrol and SWAT.

FIGURE-1: DEPARTMENT STRUCTURE OF THE ANYTOWN DRAGONFORCE DEPLOYMENT



One of DragonForce’s most powerful features is that of cross department interoperability, whereby members of different departments can be brought together inside of a DragonForce collaboration group in response to any type of situation. The rules of engagement or business logic that dictates which members of what department may exercise this interoperability capability is defined by two sets of permissions: 1, the **Truth Table** dictates the relationship between any two departments; 2, **Cross-department user permissions** dictate which actions may be performed by individual members (users) of departments. The combination of these two “rules engines” enable the customer to construct a customized command and control structure for their DragonForce deployment.



## SECTION 2 | TRUTH TABLE

In all multi-department deployments of DragonForce, every department has four types of true/false interoperability relationships with every other department. These four relationship types are:

- 1, **Linked** – Is Department A linked to Department B? If they are linked, then members of these two departments may interact with each other. This type of relationship is always symmetrical – If A is linked to Department B, then Department B is linked to Department A.
- 2, **Messaging** - Can members of Department A send messages to members of Department B? This type of relationship is also always symmetrical.
- 3, **Tracking** - Can members of Department A track the location of members of Department B? This relationship type may be asymmetrical, whereby members of Department A may track users of Department B, but Department B users are unable to track Department A members.
- 4, **Drafting** - Can members of Department A draft (add) members of Department B to groups or incidents? This relationship type may also be asymmetrical.

These relationship types are controlled by a spreadsheet Truth Table as shown in Figure-2.1. The cell at the intersection of each row and column contains a four-digit number that defines the relationship between the Departments.

**FIGURE-2.1: TRUTH TABLE GOVERNING THE DEPARTMENT RELATIONSHIPS FOR ANYTOWN DEPLOYMENT**

| <u>Departments</u> | Dispatch | Police CMD | Patrol | SWAT | Fire |
|--------------------|----------|------------|--------|------|------|
| Dispatch           |          | 1111       | 1111   | 0011 | 1111 |
| Police CMD         | 0011     |            | 1111   | 1111 | 0111 |
| Patrol             | 0011     | 0011       |        | 0011 | 0000 |
| SWAT               | 0011     | 0011       | 0111   |      | 0011 |
| Fire               | 0011     | 0011       | 0111   | 0011 |      |

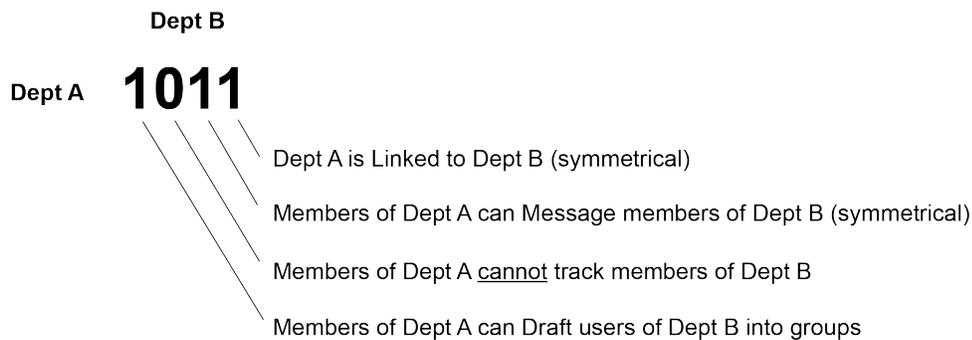
The yellow highlighted cell in Figure-2.1 shows the relationship that **Dispatch** has with **Patrol**.



The blue highlighted cell shows the relationship that **Patrol** has with **Dispatch**. Please note that the cell values are not the same - this illustrates the possible asymmetrical relationships that can be formed between departments.

The meaning of the four-digit code inside the cells of the truth table is explained in Figure-2.2. You should read the code from right to left.

**FIGURE-2.2: DECODING TRUTH TABLE CELL VALUES**



### SECTION 3 | CROSS-DEPARTMENT USER PERMISSIONS

The actions that an individual user may take or the information that that user may obtain regarding users from departments other than his own is controlled by a series of cross-department user permissions. These permissions are:

**Messaging** - The user may message members of linked departments

**Tracking** - The user may track the location of members from linked departments

**Drafting** - The user may draft (add) users from linked departments to groups or incidents

It is important to note that these user permissions are set on a department-by-department basis. Meaning, if user Joe is a member of both Department A and Department B, his cross-department permissions can be set differently in each of these departments.



## THE DUAL KEY APPROACH TO MANAGING CROSS DEPARTMENT USERS AND INFORMATION

Now we will see how the Truth Table and Cross-Department User Permissions work together to provide robust command and control inside DragonForce. In DragonForce we refer to this as the “Dual Key” system. In order to determine if a cross-department action can be performed (e.g. message, track or draft a user) we must consider if the action is permitted at both the department and individual user levels. If the action is permitted at both levels, then the action will be performed; if not, the user trying to perform the action will be prevented from performing the action.

**FIGURE-3: CROSS-DEPARTMENT USER PERMISSIONS**

|                        |   |   |   |   |   |
|------------------------|---|---|---|---|---|
|                        |  |  |  |  |  |
| Department             | Dispatch  | Police CMD  | Patrol  | SWAT  | Fire  |
| Username               | Don   | Charlie   | Pat   | Sam   | Fred  |
| Cross Dept Permissions | Message= <b>YES</b><br>Track= <b>YES</b><br>Draft= <b>YES</b>                     | Message= <b>YES</b><br>Track= <b>YES</b><br>Draft= <b>YES</b>                     | Message= <b>YES</b><br>Track= <b>YES</b><br>Draft= <b>NO</b>                      | Message= <b>YES</b><br>Track= <b>NO</b><br>Draft= <b>NO</b>                         | Message= <b>YES</b><br>Track= <b>NO</b><br>Draft= <b>NO</b>                         |

Let’s explore this dual key system with a few examples based on the Truth Table values presented in Figure-2.2 and the cross-department user permissions shown in Figure-3.

### Example-1

| Source Department  | Cross-Dept Action Type | Cross-Dept User Permissions   | Truth Table (1111)  | Destination Department  |
|--|------------------------|---|---|---|
| <br>Dispatch<br>“Don” | Message                |  |  | Patrol<br>“Pat”   |
|  | Track                  |  |  |  |
|  | Draft                  |  |  |   |



In Example-1 we see the relationship between user Don from the Dispatch department with members from the Patrol department. We see that Don has full cross-department user permissions and that the Truth Table value (1111) indicates that the Dispatch department has full permissions with the Patrol department.

Therefore, Don has a “Dual Key” for each of the possible cross-department actions and can message, track or draft Pat or any other member of the Patrol department.

### Example-2

| Source Department  | Cross-Dept Action Type | Cross-Dept User Permissions   | Truth Table (0011)  | Destination Department   |
|--|------------------------|---|---|--|
| <br>Dispatch<br>"Don" | Message                |  |  | <br>SWAT<br>"Sam" |
|  | Track                  |  |  |  |
|  | Draft                  |  |  |  |

In Example-2 we now investigate the relationship between Don from Dispatch with the SWAT department. Don’s user permissions are the same as they were in Example-1, but what has changed is the Truth Table. Now the Truth Table value (0011) shows that the Dispatch department can only message members of the SWAT department - tracking and drafting are forbidden. So, even though user Don has full permissions to message, track and draft at the individual level he is prevented from tracking and drafting members of the SWAT department.

### Example-3

| Source Department  | Cross-Dept Action Type | Cross-Dept User Permissions   | Truth Table (0111)  | Destination Department  |
|--|------------------------|---|---|---|
| <br>SWAT<br>"Sam" | Message                |  |  | Patrol<br>"Pat"   |
|  | Track                  |  |  |  |
|  | Draft                  |  |  |   |



In Example-3 we see another variation of an action being blocked, but this time at the individual level. In this case, Sam's SWAT department does have permission to track members of the Patrol department. However, Sam lacks the individual user permission to track or draft and as a result is unable to track Pat or other members of the Patrol department.

A large, complex organization trying to achieve an interoperable, collaborative experience for its members is challenged by the need to balance openness and accessibility with security, privacy and the need to maintain chain-of-command processes where appropriate. DragonForce provides these organizations the tools they need to achieve interoperable collaboration at enterprise scale and at the same time being able to govern that collaborative experience with robust business logic tools at both the departmental and individual levels.

In summary, these DragonForce tools include:

- Multi-Department support - You may organize your personnel and data assets into an "Org Chart" like structure of departments and sub-departments that directly models the current way you conduct operations
- Management of Cross-Department Relationships- Via DragonForce's "Truth Table" rules engine you will be able to precisely define the level of access or privacy that will be afforded to the working relationship between any and all of the departments in your organization
- Management of cross-department permissions at the individual user level - A department may contain several hundred users; each one need not have the same rights and privileges when interacting with other departments. DragonForce allows you to set cross-department privileges at the individual user level to ensure that your organization's command and control protocols are enforced precisely.



## SECTION 4 | CONTACTS & REFERENCES

For more information visit our website [www.drakontas.com](http://www.drakontas.com). To arrange a trial or evaluation of DragonForce for your organization, please contact us.

**Contact Us:** <https://www.drakontas.com/contact/>

**General Email:** [info@drakontas.com](mailto:info@drakontas.com)

**Tech Support:** [dfsupport@drakontas.com](mailto:dfsupport@drakontas.com)

### Address

1777 Sentry Parkway West  
Building 14 – Suite 302  
Blue Bell, PA 19422 USA

**Phone:** + 1. 215.887.5570

### Follow Drakontas

[Twitter](#) | [Facebook](#) | [LinkedIn](#) | [YouTube](#)

