What for is the Current Reality Tree – two practical approaches to building a CRT

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Jelena is the author of the recently published book *Behind the Cloud - Enhancing logical thinking*. She has also authored numerous articles on TOC concepts and implementation, has edited a number of TOC books.

Jelena and Oded Cohen have just completed a new book *Basics of TOC*.

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TOC Solution for Managing Systems and People

Strategy:
Management enhance their ability to improve the performance of the system under their responsibility

Tactics:
Management employ the TOC Management Tools

Mindset & Basics Commitment to Logic based Management	Current Reality Understanding the problem WHAT to Change	Future Reality Establishing the Solution What to Change TO	Transition Implementing the Solution HOW to Change	POOGI Continuous Improvement How to Grow
• U-Shape • C&E • CLR • Inner Dilemma/ Conflict Cloud	• UDEs • UDE Cloud • Consolidated Cloud • Core Cloud • CRT	• Pivot • Direction • Injections • DE • NBR • FRT	• Ambitious Target • PRT • Detailed plan • S&T	• Fire-Fighting Cloud • Buffer Management • Inner Dilemma/ Conflict Cloud

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Current Reality Tree

Current Reality Tree (CRT) is a logical structure describing cause-effect relationships in the analyzed area of the current reality.

The main goal of the CRT is to help deeper understanding of the core problem that causes major UDEs in the analyzed environment.

Two approaches to building an CRT and its objective:

-**CRT is used for recording cause-effect relationships** between and among effects in the analyzed area. Only in the final steps of the work, after the relationships are established, the common causes and the core driver are identified by trying to understand what they are.

-**CRT is used for checking and validating that the Core Cloud (that is built on the base of the consolidated clouds of the UDE clouds)** does, in fact, contain the core conflict of the entire area as defined by the chosen UDEs.

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Why the approach

CRT for recording cause & effect?

Often used by consultants that have very little knowledge of a new environment:

•Totally new environment (e.g. new production environment, moving from work with business to work with non-profit organizations, or the other way around, etc.)

•New country (different business practices, different relationships with the state/banks/ foreign companies)

Why this approach?

•Immediate, fast and easy way of recording information, also easily saved and retrieved.

•Immediate visual and logical evaluation of cause and effect (C&E) sufficiency – to ensure understanding.

•Helps to keep the discussion focused.

•Excellent opportunity to present oneself as having superior skills and tools.

•While discussing and recording, does not require (either from the consultant or from the interviewed) the detailed analysis and deep thinking.

•Those interviewed get the impression that they also have gained something from the session.

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Why the approach

CRT for **checking and validating the Core Cloud**?

To ensure that we focus the solution on the right conflict and to ensure that our efforts are not futile.

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Difference in the process

CRT for recording C&E	CRT for checking and validating the Core Cloud
1. «Collect» some meaningful entities (5-10) from the area of the analysis. [Sometimes the recording starts with 2-3 entities, or even one entity – usually the one about which the consultant does not understand what has caused it or where it leads to]. 2. Diagram the C&E relationships between them. [If the CRT started from a very few entities, establishing C&E relationships leads to a natural "growth" of the logical structure around the starting entity(s). 3. Identify the core cause – look at the entities at the bottom of the structure and try to understand what causes them.	1. List UDEs in the area under investigation. *UDEs are not just problems or complaints. There are very strict rules as to which statement can qualify as an UDE and which not. Only a few of the complaints or problems will be accepted as UDEs. Majority of statements in the list will be obstacles, blames, hidden solutions, etc.* 2. Build an UDE map through estblishng C&E relationships. 3. Take three UDEs (standing at the very bottom of the map or from different areas of the system) and build for every UDE an UDE Cloud. 4. Consolidate the three UDE Clouds into a Consolidated Cloud. 5. Check all other UDEs – whether the Consolidated Cloud represents them. If not – for every UDE that is not represented build its own UDE Cloud and consolidate with the previously consolidated one. 6. Take the final consolidated cloud and put it as the Core Cloud in the base of the CRT. 7. Connect the Core Cloud and the UDE map through C&E relationships. 8. «Unfold» all arrows through logical reasoning and bring supporting statements. 9. Validate that the Core Cloud causes all UDEs.

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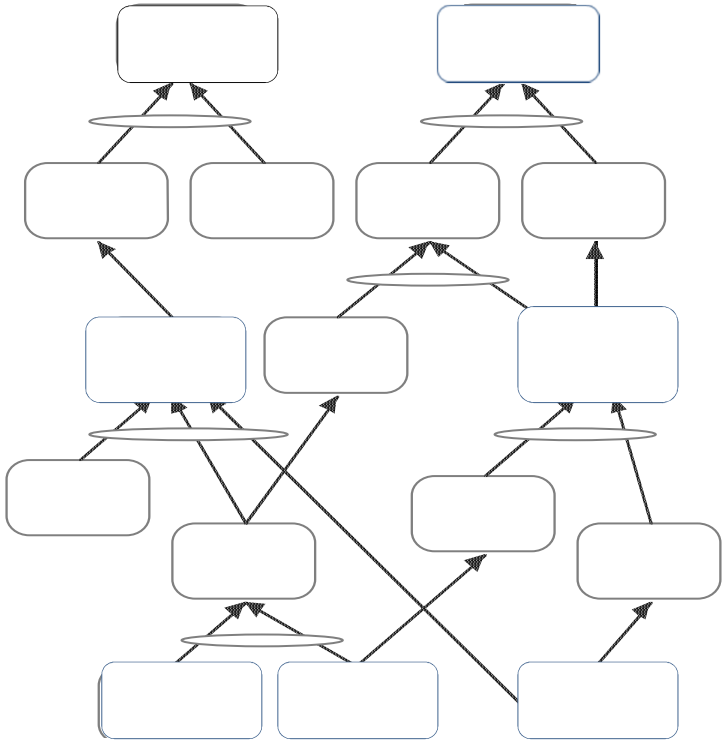
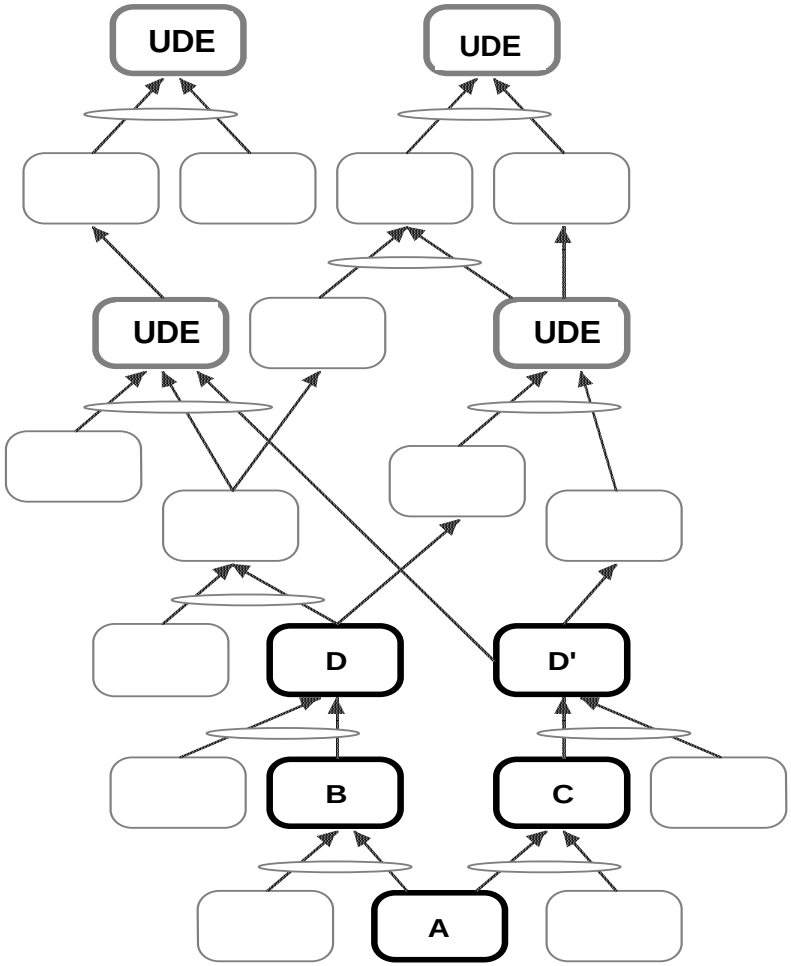
Difference in the process

CRT for recording C&E



CRT for checking and validating the Core Cloud



The Core Problem?

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How to combine the both approaches

1. Write down a few meaningful entities from the area of the analysis (or "grow" 1 or 2).
2. Diagram the C&E relationships between them.

THIS GIVES US A CRT FOR RECORDING C&E

3. Check which entities in the logical structure can be UDEs by their content.
4. Reword these entities so that they will qualify to be accepted as UDEs.

THIS GIVES US AN UDE MAP with established C&E and supporting entities.

FROM THIS POINT ON WE FOLLOW THE PROCESS FOR THE CRT FOR VALIDATING THE CORE CLOUD

5. Take three UDEs (standing at the very bottom of the map or from different areas of the system) and build for every UDE an UDE Cloud.
6. Consolidate three UDE Clouds into a Consolidated Cloud.
7. Check all other UDEs – whether the Consolidated Cloud represents them. If not – for every UDE that is not represented build its own UDE Cloud and consolidate with the previously consolidated one.
8. Take the final consolidated cloud and put it as the Core Cloud in the base of the CRT.
9. Connect the Core Cloud and the UDE map through C&E relationships.
10. «Unfold» all arrows through logical reasoning and bring supporting statements.
11. Validate that the Core Cloud causes all UDEs.

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Let's look at the process of building a CRT for checking and validating the Core Cloud

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1. List UDEs in the area under investigation.

10 RULES FOR WORDING UDEs

1.UDE is a **an ongoing problem that exists in your reality** because of which you cannot perform better.

2.It is a description of **the state** – not a one-time action (its wording cannot have verbs like 'get', 'go' etc).

3.It is **within your area of responsibility**.

4.Something **can be done about it.**

'It's too hot outside' – not an UDE.

We cannot change it, we can only change what we will do about feeling hot.

5.It must **not be a blame**.

6.It must **not be a speculated cause**.

'People are not well trained' – not an UDE, it's a speculated cause: "Because people are not well trained…"

7.It must **not be a hidden solution** (wishful thinking of solving the problem).

8.It does **not require a clarification of its negative impact/effect.**

9.It **cannot contain C&E relationship**, regardless whether the cause is real or speculated.

10. It **must not be subjective** – it should not contain such adjectives as 'difficult', "hard", "poor", etc .

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UDE or not?

Local governments give weak support to investment projects.

Not an UDE

Blame, hidden solution, it may be not in your area of responsibility and impact.

•How do we know that it is a blame?

«Weak» is subjective, in the context «weak» = «bad». Meaning:
«they could have supported stronger».

•How do we know that it is a hidden solution?

«If local governments gave stronger support…»

What's the difference between this wording and the wording of a standard UDE «Resources are not always available when needed»?

Why is it OK to say that «Resources are not always available when needed» is NOT a hidden solution?

Because in the statement "Local governments give weak support to investment projects" the "HOW TO CHANGE IT" is lying on the surface.

«Local governemtns give weak support (while hey could be giving strong support). Then force them!»

But if it is *US* who can "force" – they why don't we force (or give incentives, or make it happen? And if it is not us – then it is outside of OUR area of responsibility and WE can do nothing about it.

Do we have the same "simple" answer "how to change" regarding «Resources are not always available when needed» ?

Try and «force» the resources that do not have enough capacity when it is needed

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UDE or not?

Leasing is not popular. - Not an UDE

Banks give credits twice less than they are asked for. - Not an UDE

Production capacity utilization is varying - Not an UDE

Majority of machinery is vey old. - Not an UDE

Routine work of sales department has increased tremendously. - Not an UDE

The due date in production planning includes the transportation time. - Not an UDE

Problems with production machinery, especially with cranes, have cause interruptions in production. - Not an UDE

Quite often the credit control department activities are delaying the acceptance of an order. Not an UDE

Production is picking work orders that are most late. - Not an UDE

IMPORTANT – WHAT IMPORTANT MEASUREMENT IS BLOCKED BY THIS?

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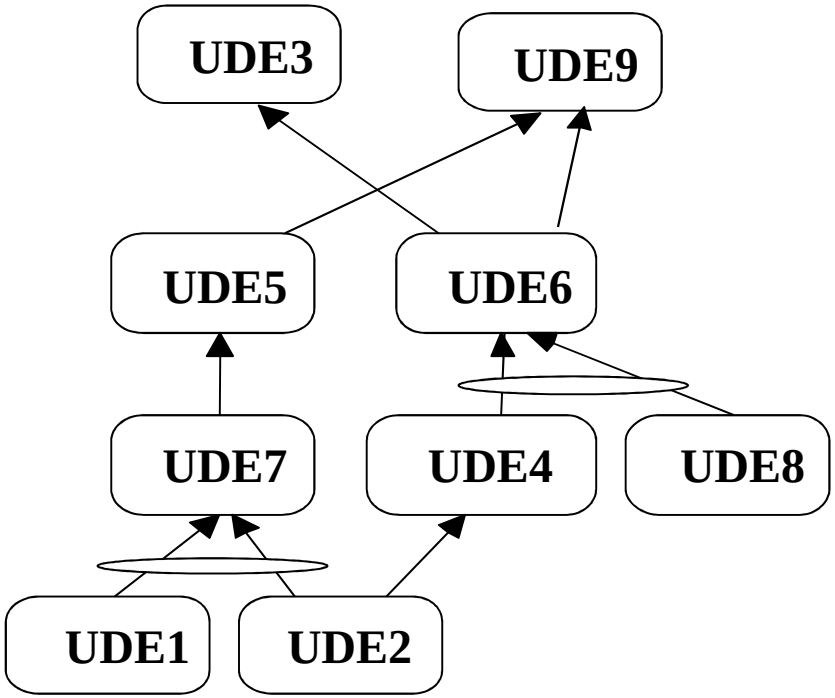
2. Build an UDE map through estblishng C&E relationships.



The number of UDEs, the shape of the map and the UDE sequence will be specific for every case.

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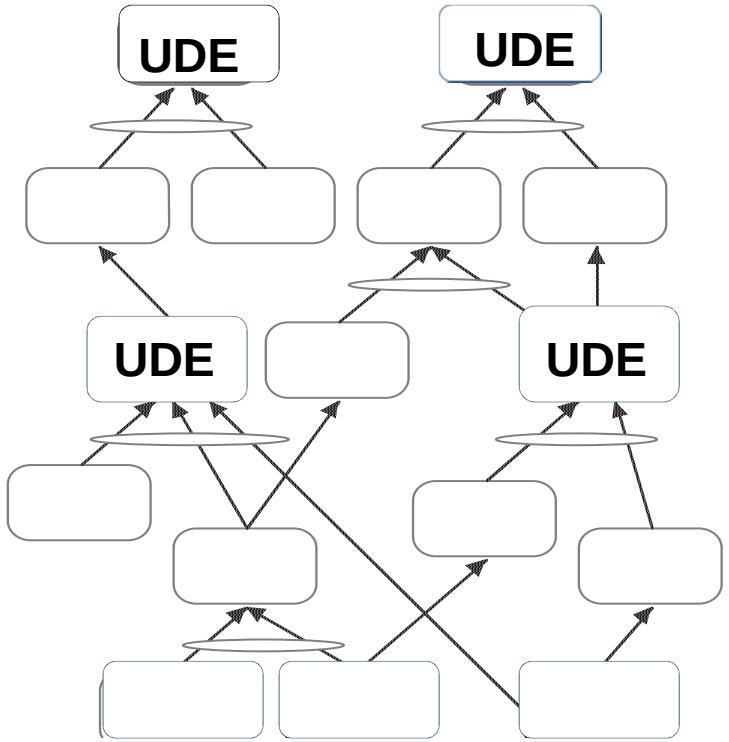
An UDE map as the result of the CRT for recording C&E relationships

We come to the same result in the combined method of building CRT:

1. Write down a few meaningful entities from the area of the analysis (or “grow” 1 or 2).
2. Diagram the C&E relationships between them.
3. Check which entities in the logical structure can be UDEs by their content.
4. Reword these entities so that they could be accepted as UDEs.



From here further the process is the same

3. Take three UDEs (standing at the very bottom of the map or from different areas of the system) and build for every UDE and UDE Cloud.

UDE

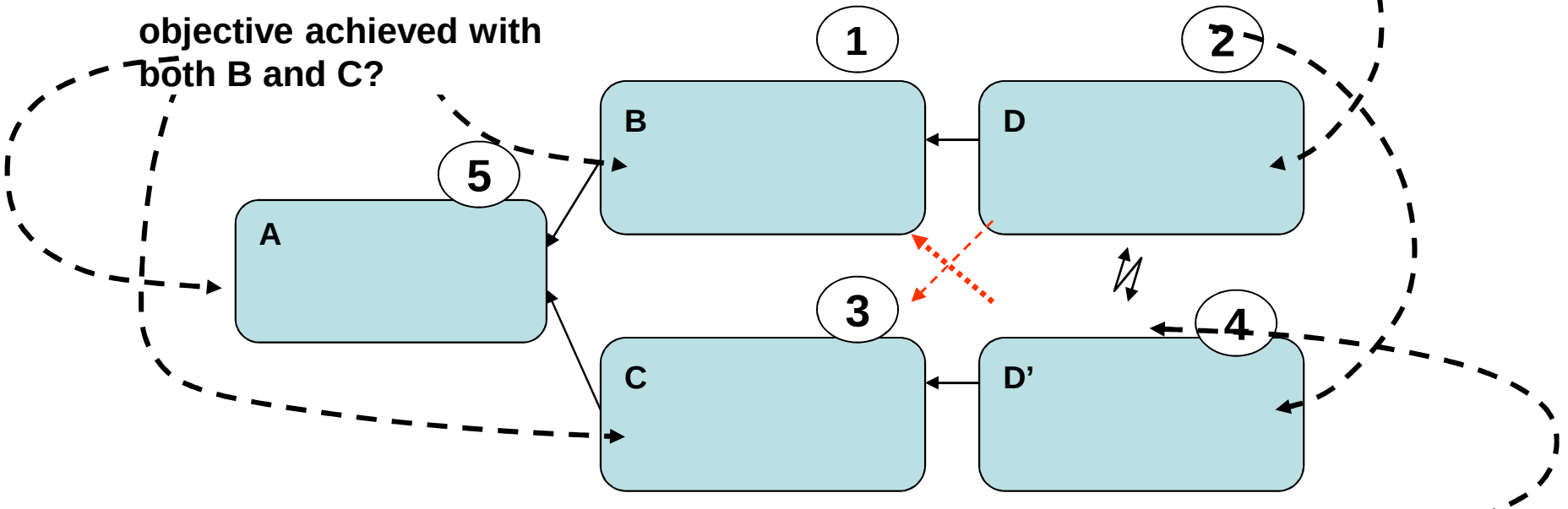
1. Why is this UDE undesirable – what important need of the system does it jeopardise/endanger?

2. What action do you have to take to meet the jeopardised need in B?

3. What other important need prevents you from always taking the action in D?

4. What action do you take to meet this other need in C?

5. What is the common objective achieved with both B and C?



Check that this UDE puts you in a direct conflict

Check that the action in D jeopardises C

Check that the action in D' jeopardises B

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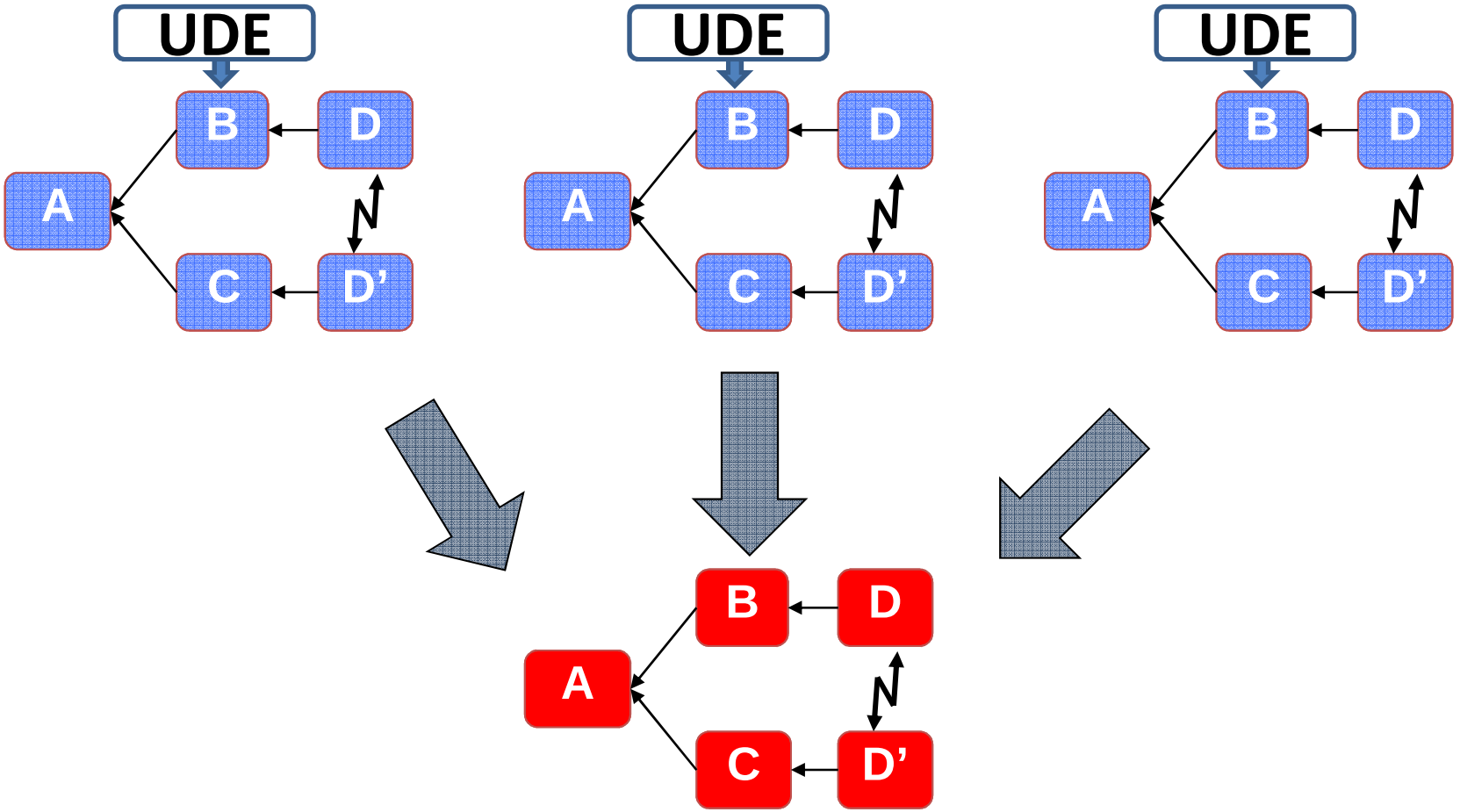
4. Consolidate the three UDE Clouds into a Consolidated Cloud.



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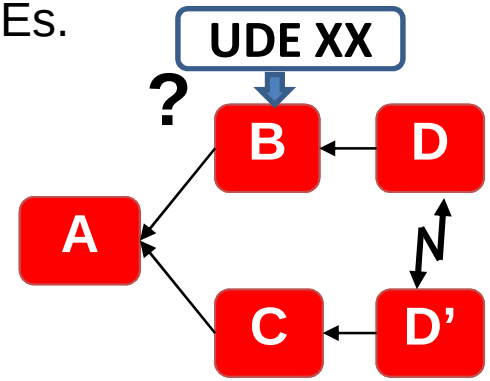
5. Check all other UDEs on whether the Consolidated Cloud represents them. If not – for every UDE that is not represented build its own UDE Cloud and consolidate with the previously consolidated one.

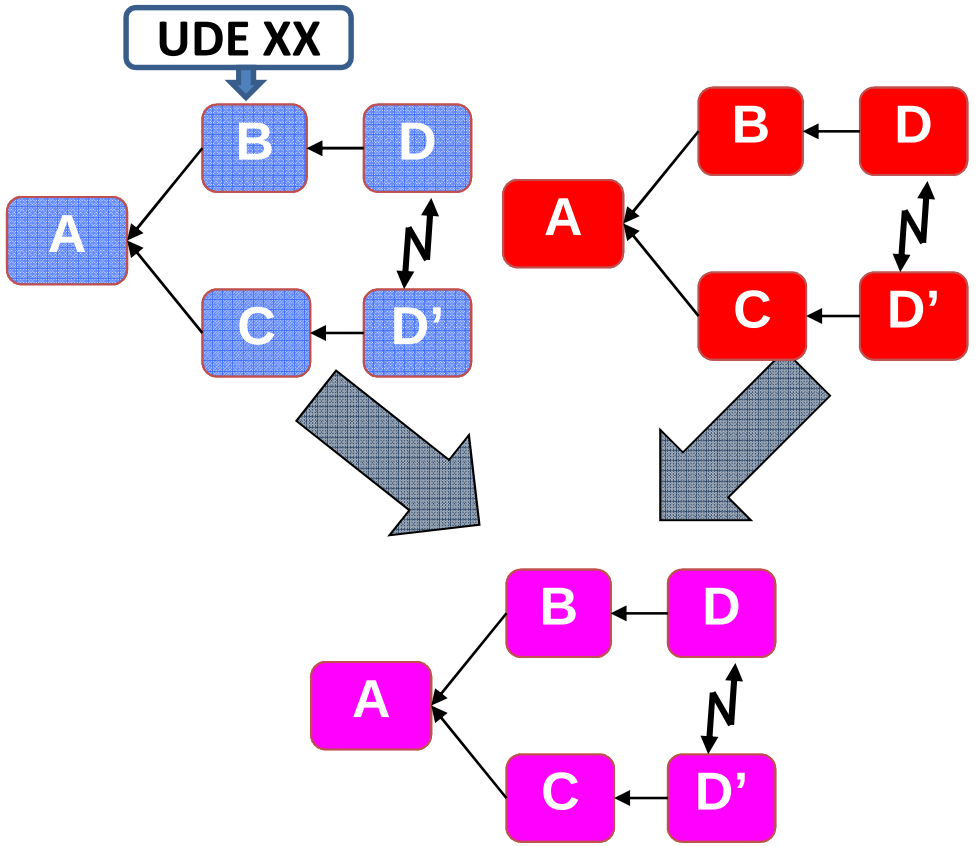
Take each UDE that does not have its UDE Cloud and check whether this UDE harms/endangers B (or C, because the cloud can flip) in the Consolidated Cloud.

If the UDE does harm/endanger B, this means that it is reflected by the Consolidated Cloud. If not – build its UDE Cloud and consolidate it with the existing consolidated cloud.

Repeat this process for the rest of the UDEs.



IF «NOT»:



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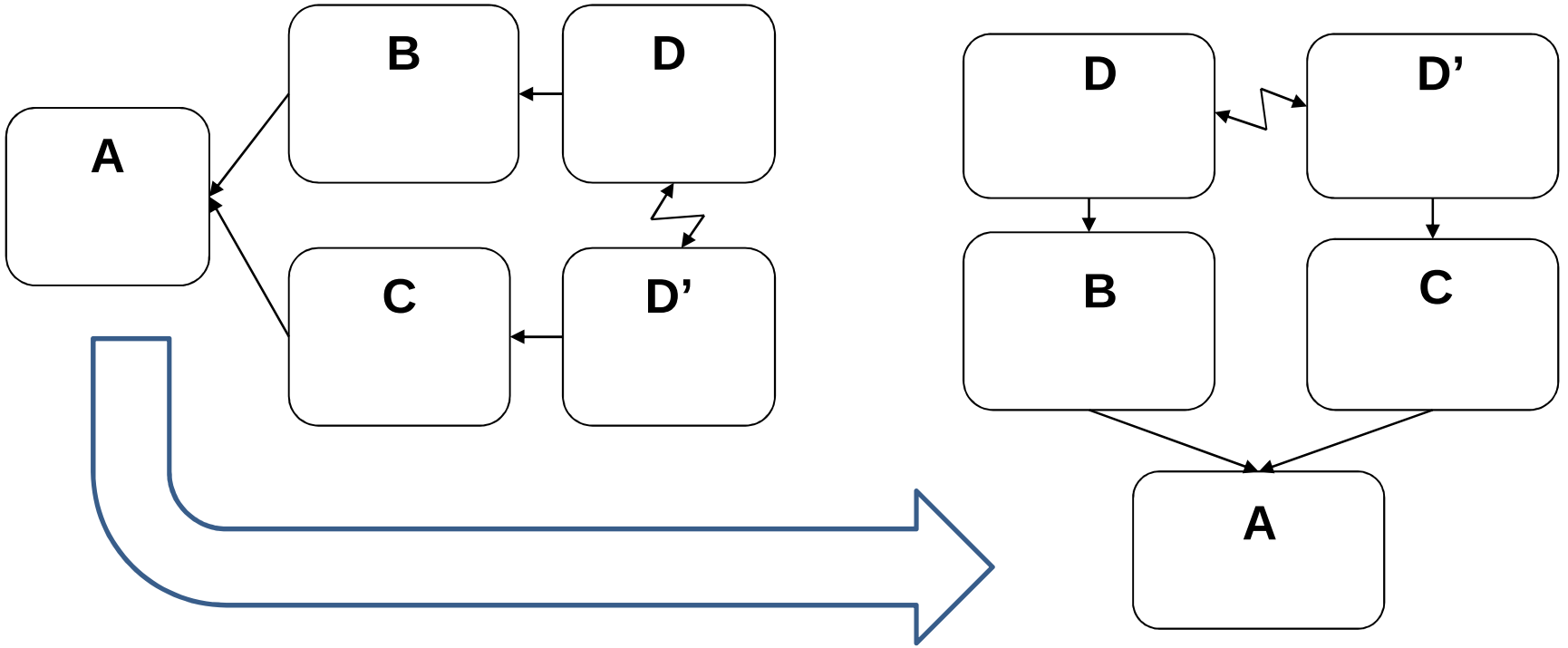
6. Take the final consolidated cloud and put it as the Core Cloud in the base of the CRT.

Take the consolidated (Core) cloud for this area of investigation and turn it 90 degrees so that A would be down, B and D to the left of it and C and D' to the right.



When introducing into the CRT – change the direction of the arrows so that they will lead up.

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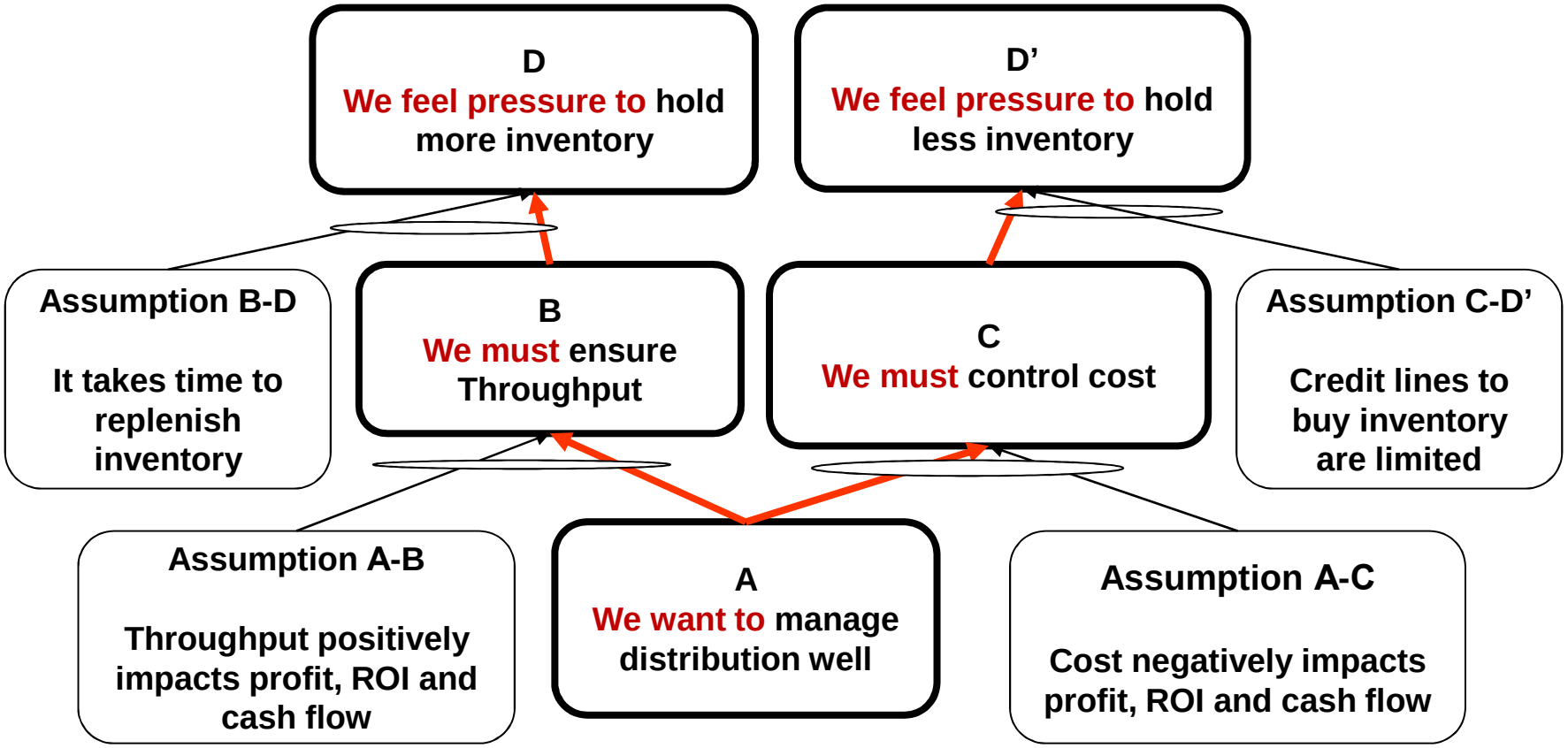
6. Take the final consolidated cloud and put it as the Core Cloud in the base of the CRT. Change the wording and add assumptions.

Example – the base of the distribution system CTR



We have got a Core CRT. It will be a CRT base.

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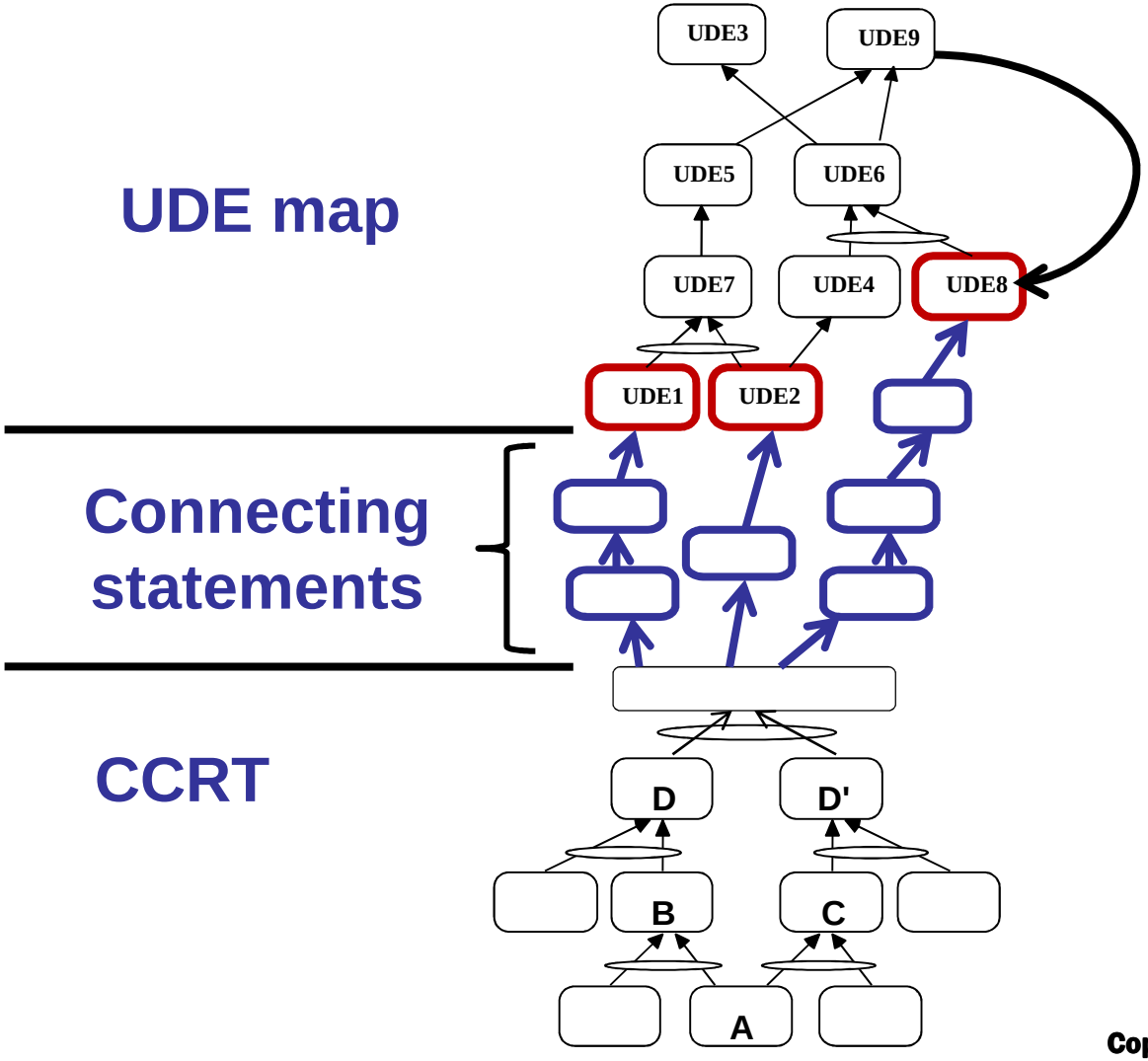
7. Connect the Core Cloud and the UDE map through C&E relationships.



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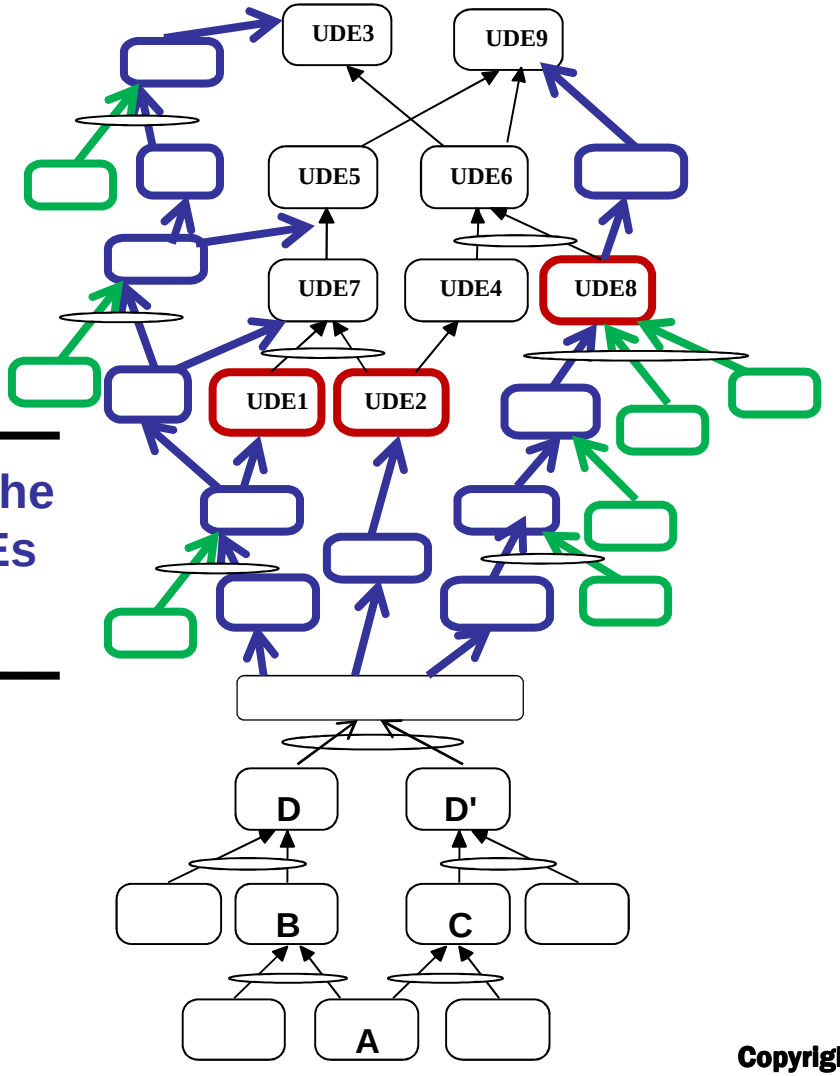
8. «Unfold» all arrows through logical reasoning and bring supporting statements.

UDE map with the unfolded arrows between the UDEs



Explaining the logic of the statements linking UDEs and CCRT

CCRT

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How to establish logic

Read aloud the arrow ***«If ..., then…»*** and answer the following questions:

• If you read this connection to somebody – would you want to clarify it? If yes, add this clarification as an entity to the tree.

• Do you yourself see the sense in this connection «if…then»? (In other words, is it really so that A and the assumption AB unavoidable lead to B?)

• Is every entity in this connection a full simple sentence?

• Are the causes A and AB sufficient to cause the effect B? If not, add another cause to the banana.

• Is there any other cause for this effect that on itself can cause it? If yes, connect this cause to the effect as a separate cause, not linked with the existing cause through the banana.

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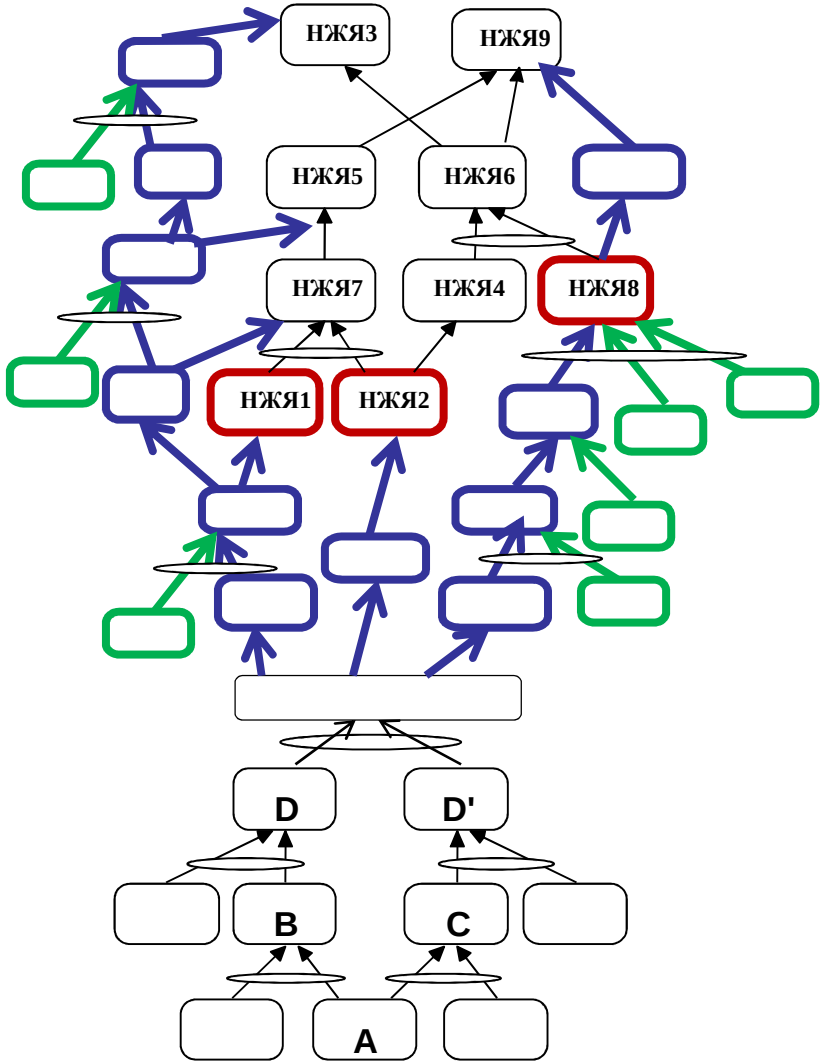
9. Validate that the Core Cloud causes all UDEs.



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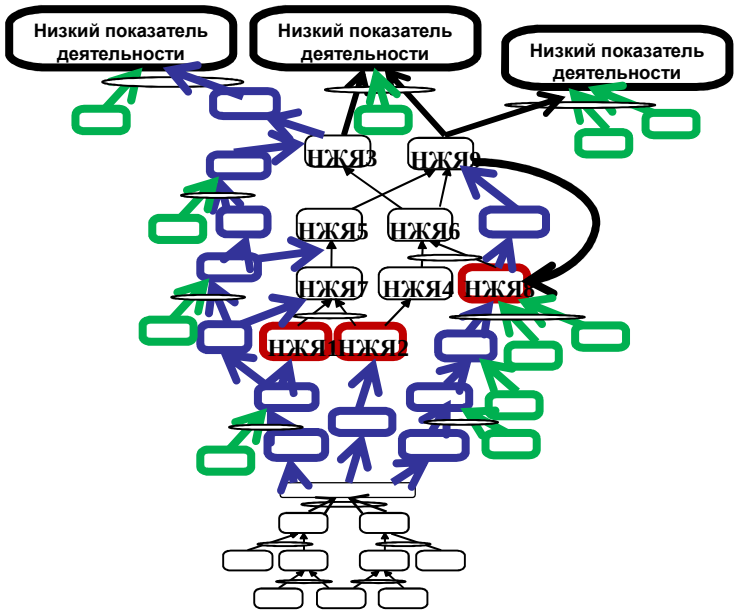
Check the logic in all CRT connections

To complete the CRT, check the existence and accuracy of C&E relationships in all arrows in the tree.

Use Categories of Legitimate Reservations (CLR) – to check your own tree, as well as when somebody else presents their tree and you want to clarify logical connections and entities.



Categories of Legitimate Reservations:

1. Clarity
2. Entity Existence
3. Causality Existence
4. Cause Insufficiency
5. Additional Cause
6. “House on Fire”
7. Predicted Effect Existence

Using CLR helps to avoid fights and criticism regarding the presented CRT.

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