

EAI use case DAM Marketplace



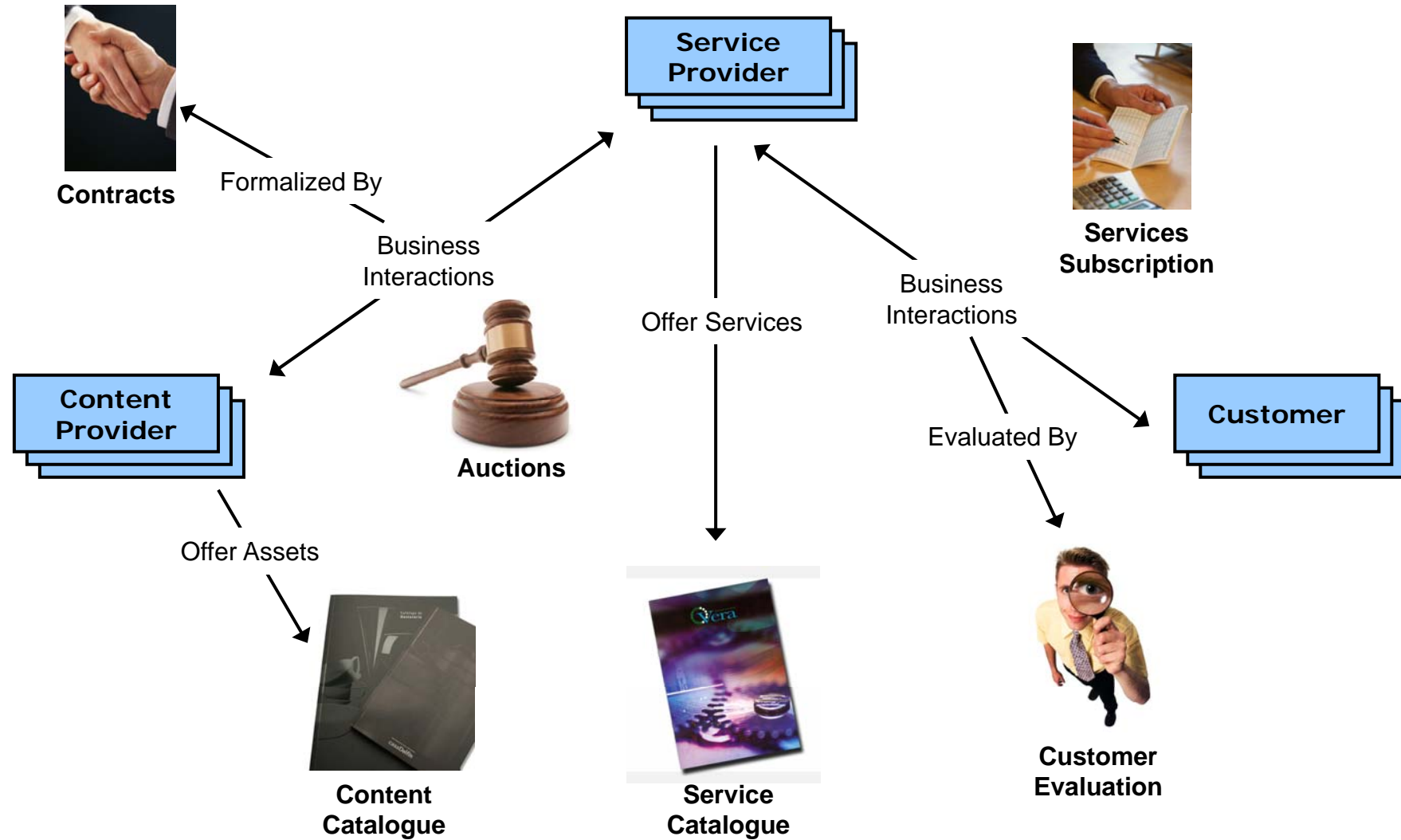
David de Francisco (Telefónica I+D)
TripCom 2nd Review
13/06/08, Vienna



- Use Case Overview
- The proposed solution
- Comments from the 1st Year Review
- Demo: Content Catalogue and Auction sample

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Use Case Overview



DAM Marketplace Challenges



Development simplicity

- Quick development (time to market requirements)
 - Flexible and decoupled solution
 - Tackle heterogeneity issues
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Value added provision

- Provision of a business mediation in which actors can rely on
 - Take advantage of available information
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Scalability

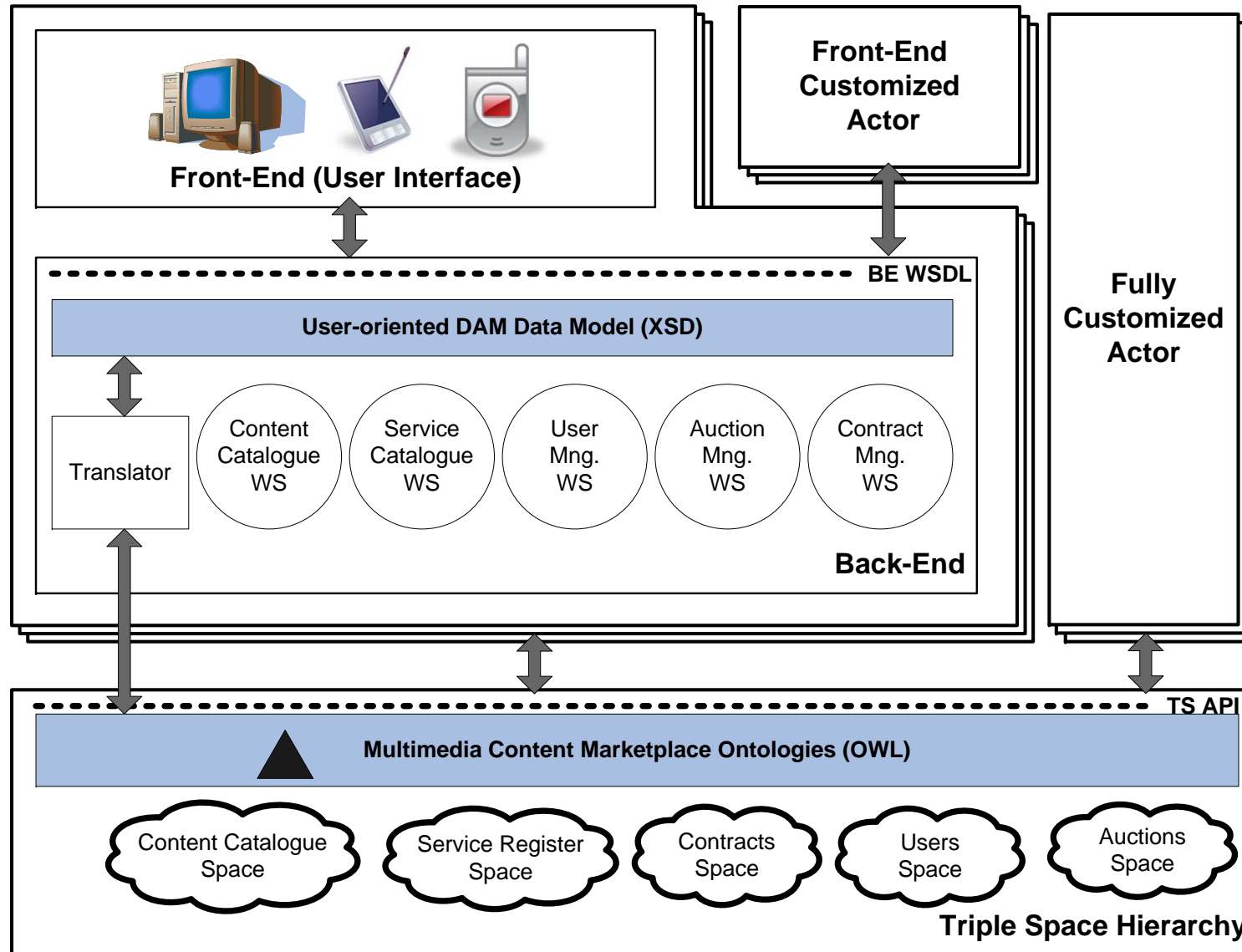
- Size of information and number of actors are unpredictable
- Keep a good balance between marketplace size and functionality

- **Unified Catalogues**
 - Common vocabulary.
 - Persistent storage and co-coordinated access
 - Provision of added value information
- **Service Management**
 - Users are able to subscribe and evaluate services
- **Business Mediation**
 - Simplify the business negotiation
 - Asynchronous and secure auctions
 - Automatically notification of auction events
- **Contracts**
 - Confidentiality
 - Service unavailability -> service re-design
 - Dependencies between actors

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- First version of the **ontology**
- Content Catalogue data initial data set
 - Data obtained from sample DB (57,000 triples now)
 - We plan to increasingly test until 1000 content providers
 - Stimulate an average of 100 contents offered
 - 500000 contents
 - Defined by 10 triples -> **1,000,000 triples** (only content catalogues)
- **Business data is generated** by the use case logic
 - Test with 100 concurrent auctions
 - Average 20 auction participants
 - Average of 5 bids
 - Total of 10000 bids
 - Average bid defined by 20 triples: **200,000 triples with performance requirements**

DAM Marketplace Architecture



What Triplespaces offer



Semantics

- **Provide a shared vocabulary** to data sources
- Allows the **inference** of added value information
- Retrieval of information from several sources (joint queries) through **SPARQL**

Communication and Coordination

- Enables the retrieval of information which is not available when the query is made
- Solves many **communication patterns** by using **subscribe-notify** mechanisms
- **Coordination** in the access to information

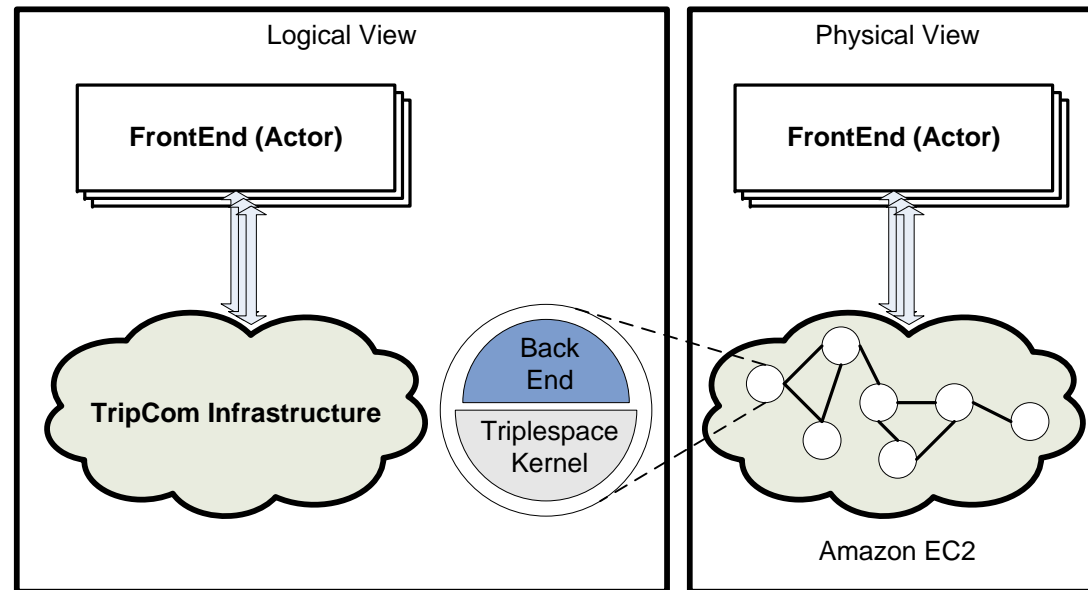
Web services support

- Support for current most extended **SOA** implementations companies may have

Semantic Web services support

- Improvement of the **interoperability of services** among companies

Agile and flexible development of the use case



- Objective: test the suitability of Triplespaces for a commercial implementation
 - Scalability and performance balance
 - Test the infrastructure's functionality



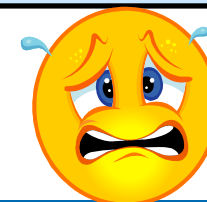
How we plan to evaluate?



1. We will define thin clients for the actors
2. These clients will simulate a marketplace user behavior
3. We deploy a distributed triplespace infrastructure
4. We deploy a number of clients
5. Simulate behavior and measure our metrics
6. Get the results and compare to the success values



Conclusions



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”Likewise, there are many good examples (including pragmatic deployments) used by the Game Theory and Multi-Agent Systems community”

- We have identified **a lot of literature** devoted to automatic auction management
 - First prototype of the use case does not provide the **automation** of business transactions
 - Use Case **evaluation** will simulate actors
 - Agent and Game literature could fit here and should further investigated and evaluated
 - However, the scope of the use case evaluation is test the suitability of triplesaces to implement a commercial marketplace

“A weakness of the work is the lack of a convincing plan for evaluating the tripcom technology on the basis of the use case. Especially, there is a lack of information about the data that will be used in the evaluation, where this data comes from. These questions should be clarified in the next period.”

■ Data available

- We presented a first step and estimation of data to test scalability.

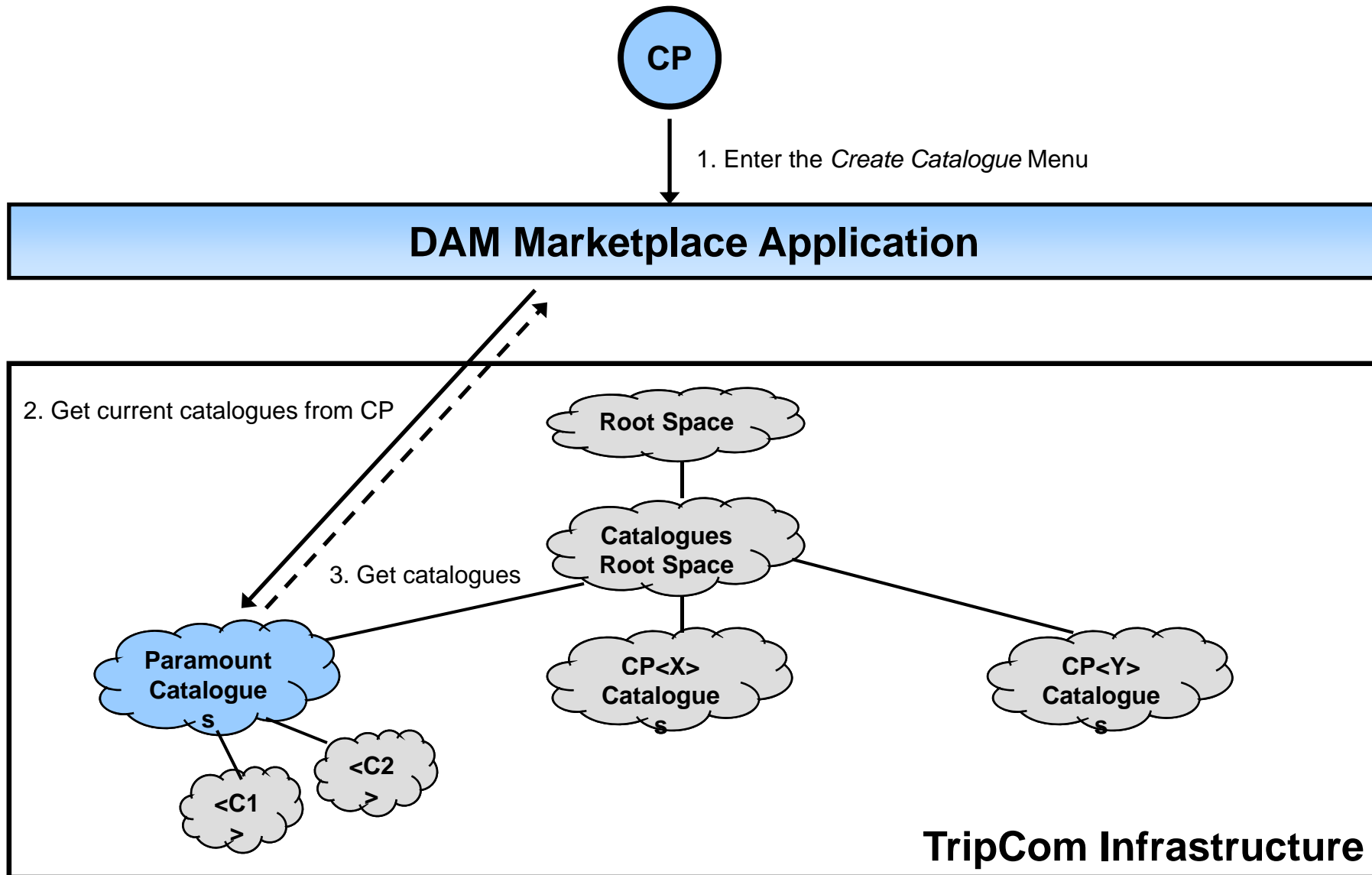
■ Evaluation plan

- Refer to the scalability deliverable
- Experiments outlined, and will be carried out next year.

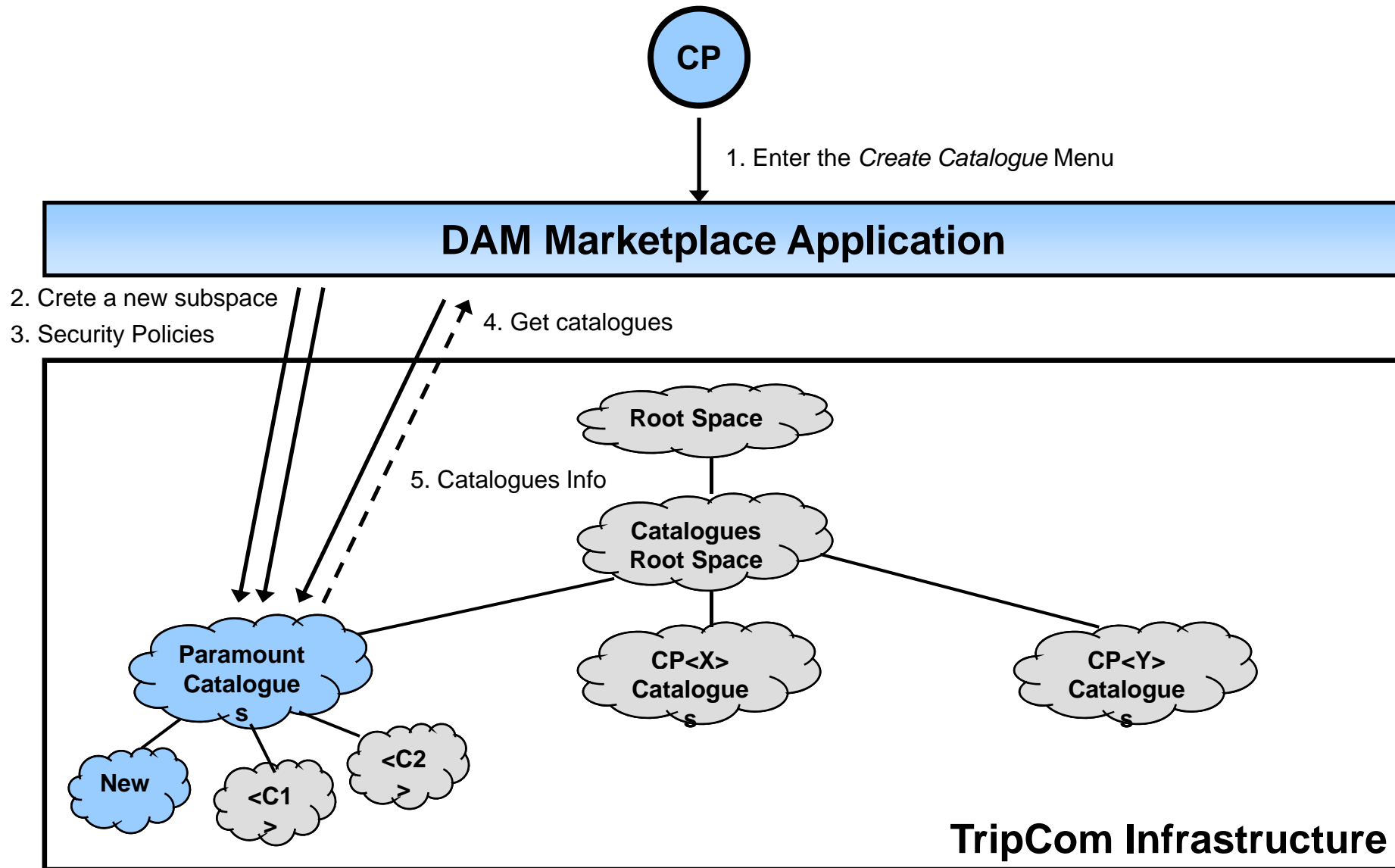
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DAM Marketplace Demo

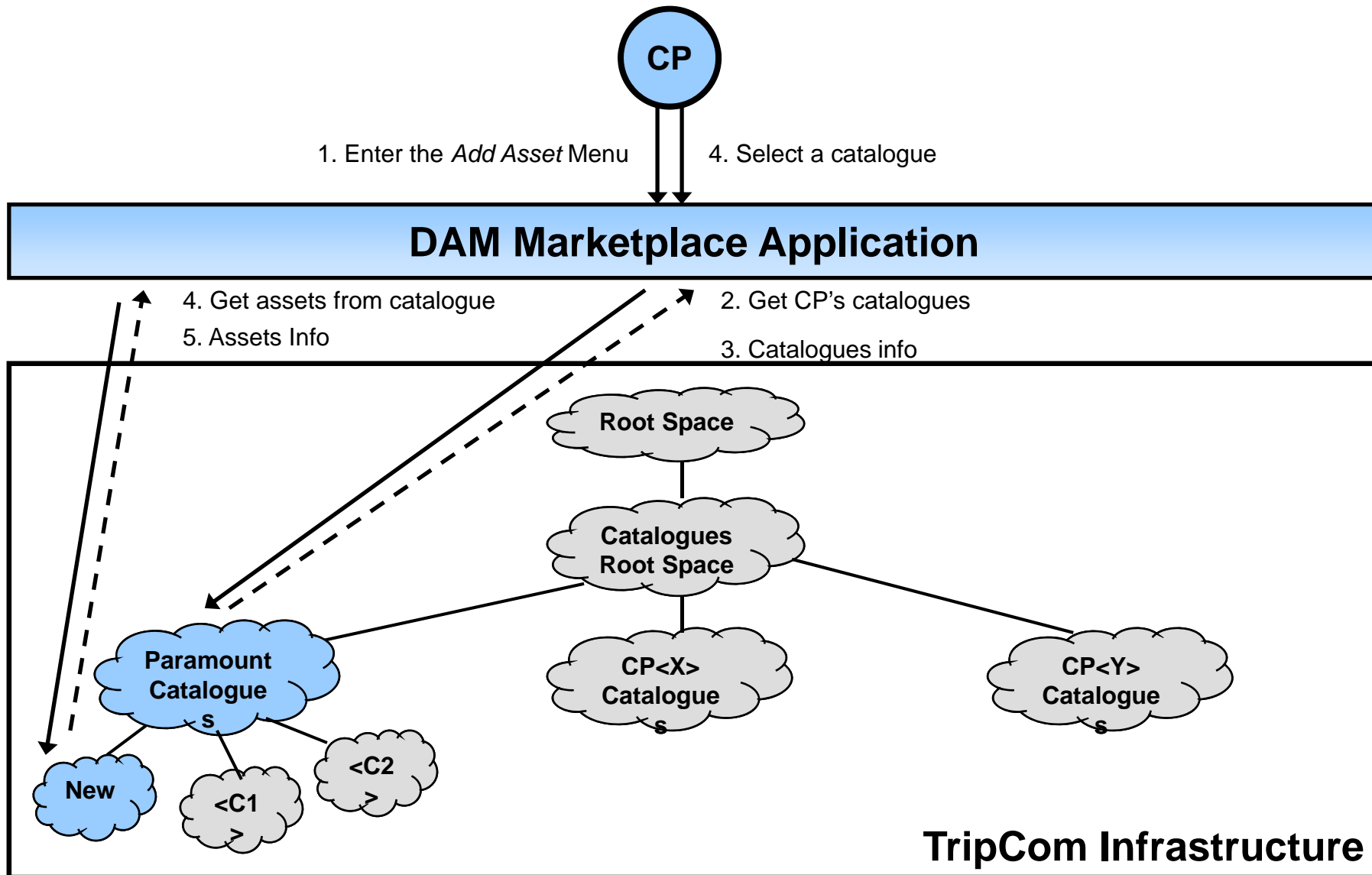
Catalogue Management (I)



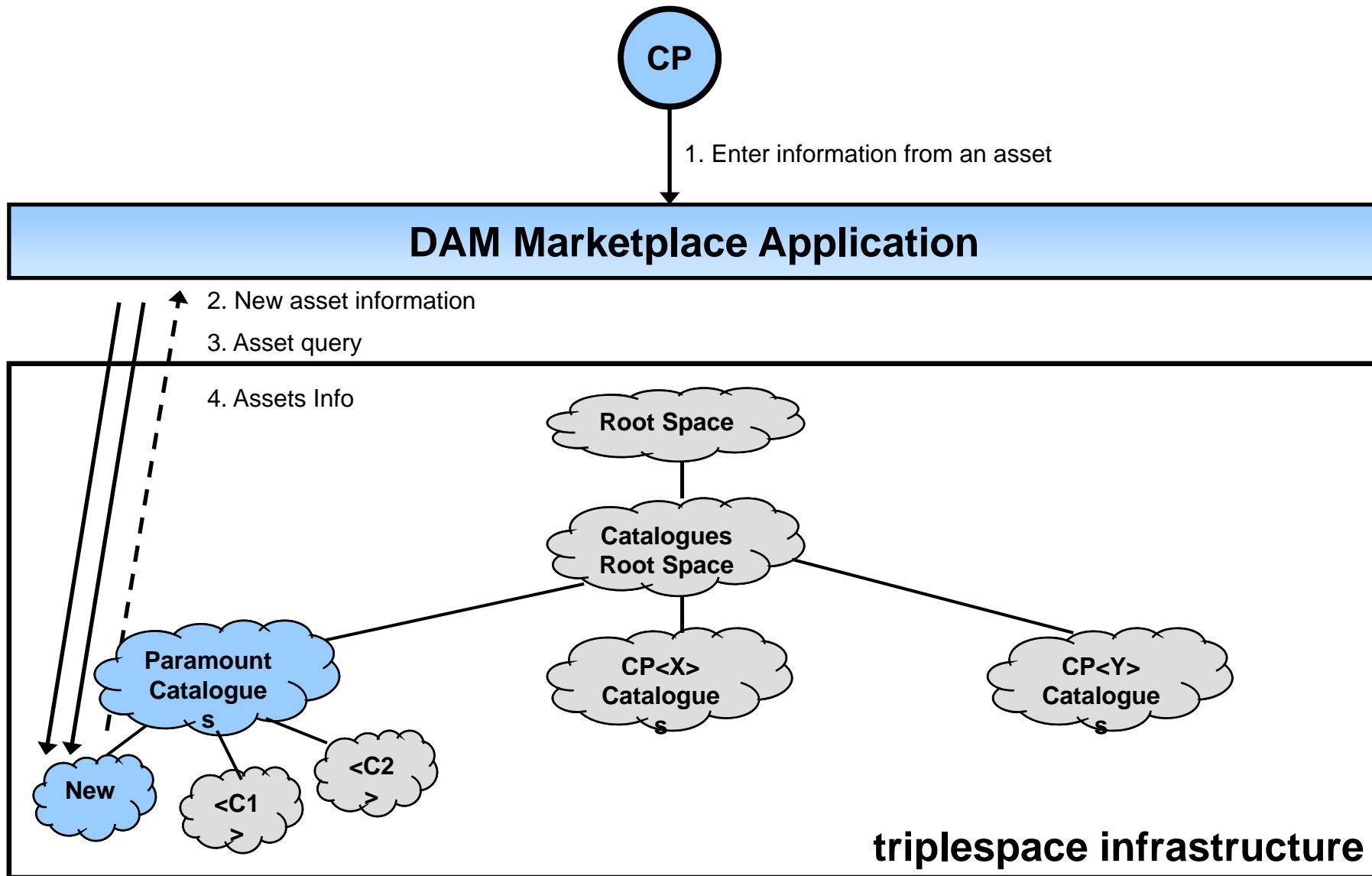
Catalogue Management (II)



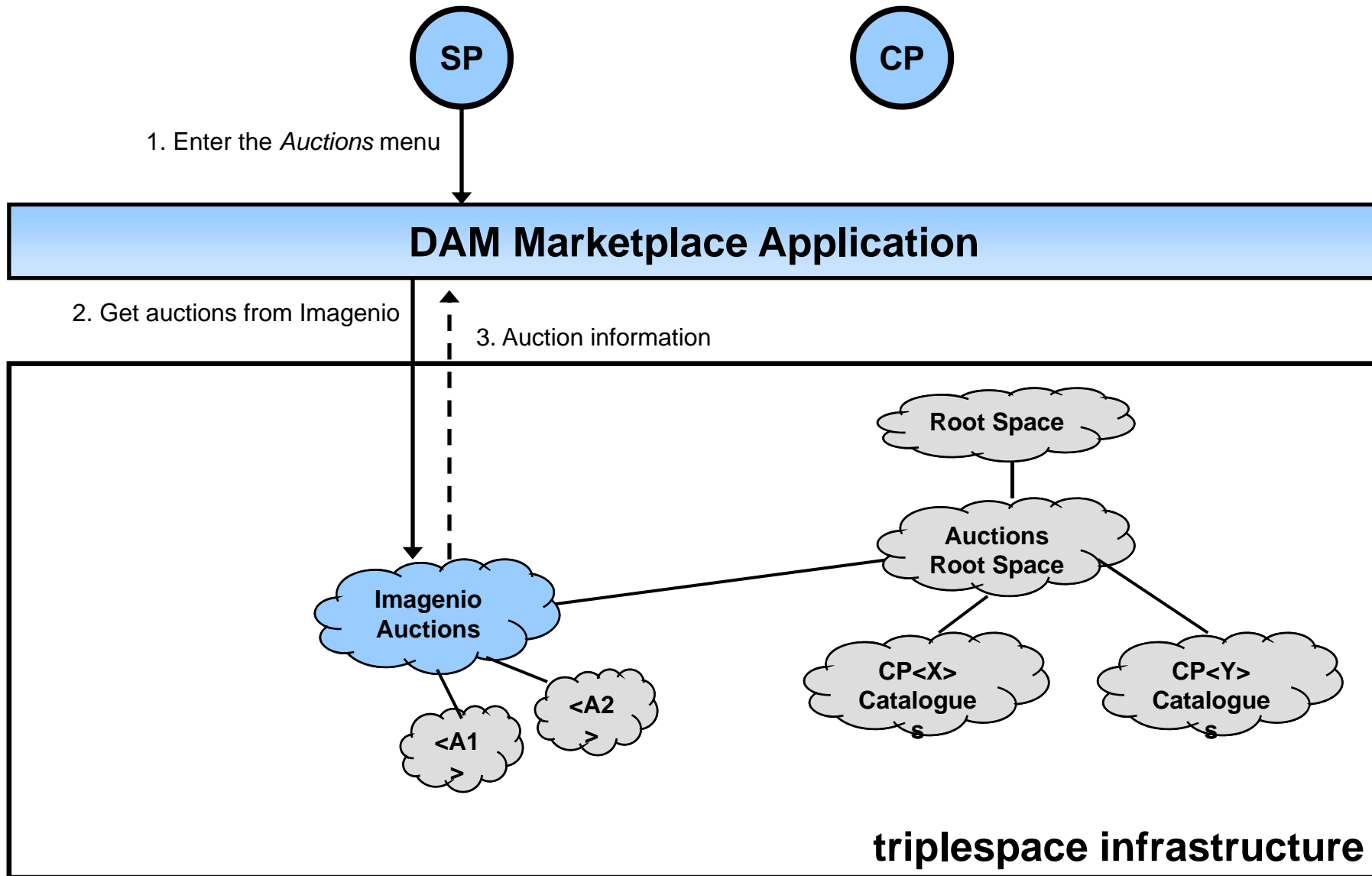
Asset Management (I)



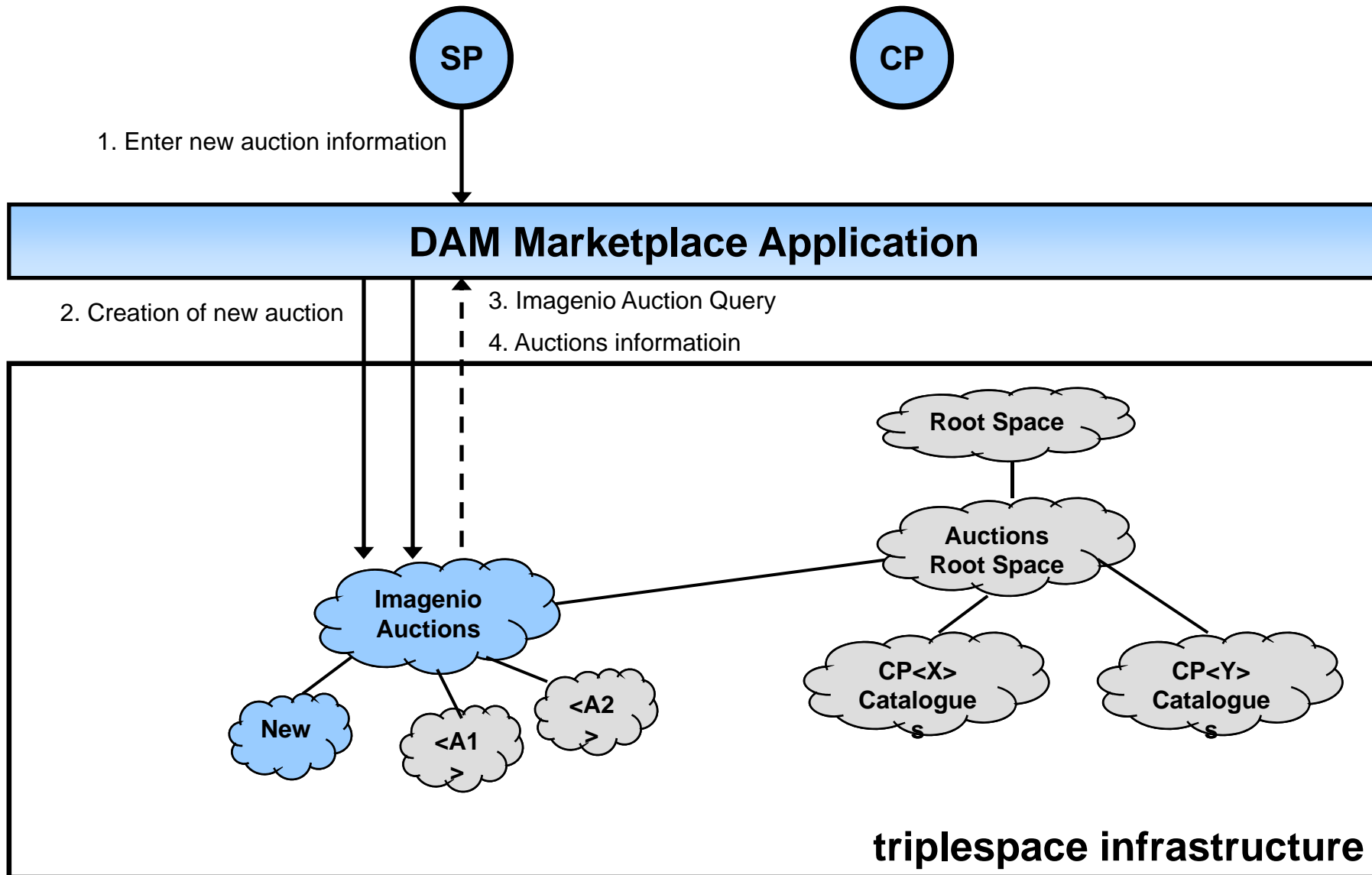
Asset Management (II)



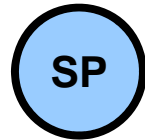
Auction Management (II)



Auction Management (II)



Auction Management (III)



1. Enter the *Available Auctions* menu

4. Subscribe to an auction

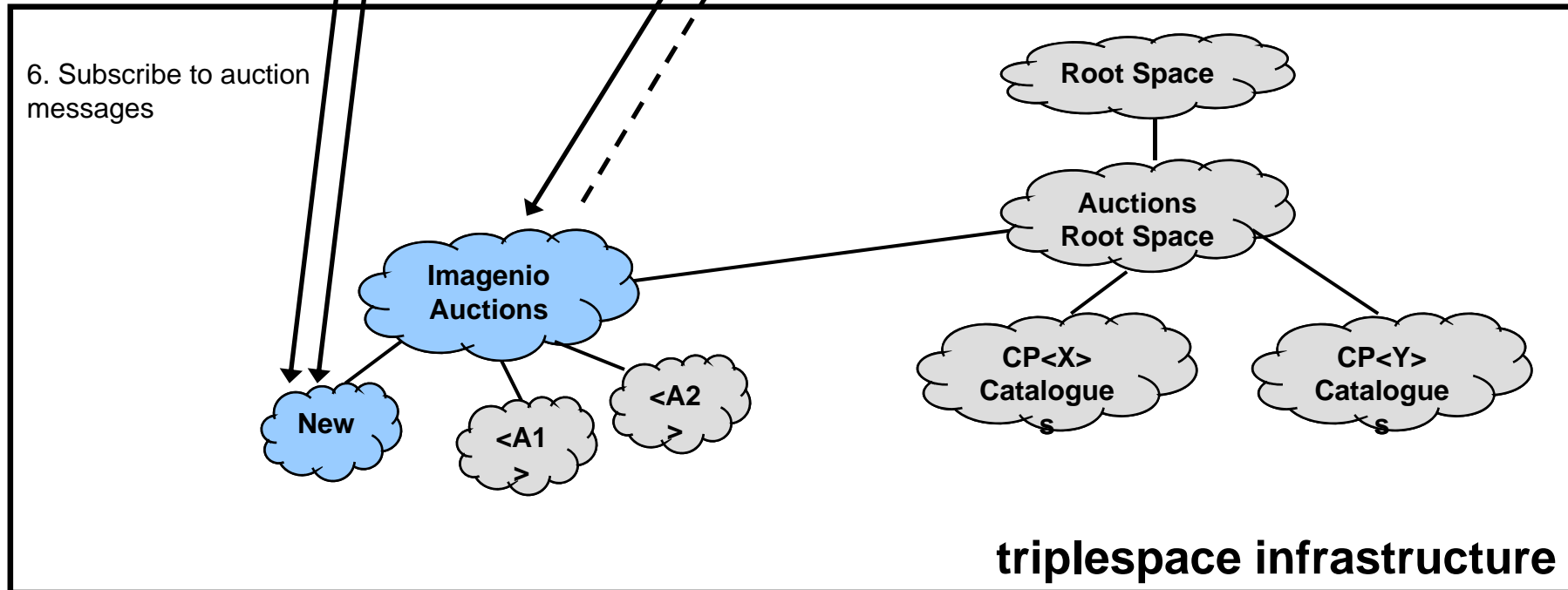
DAM Marketplace Application

5. Add auction participant

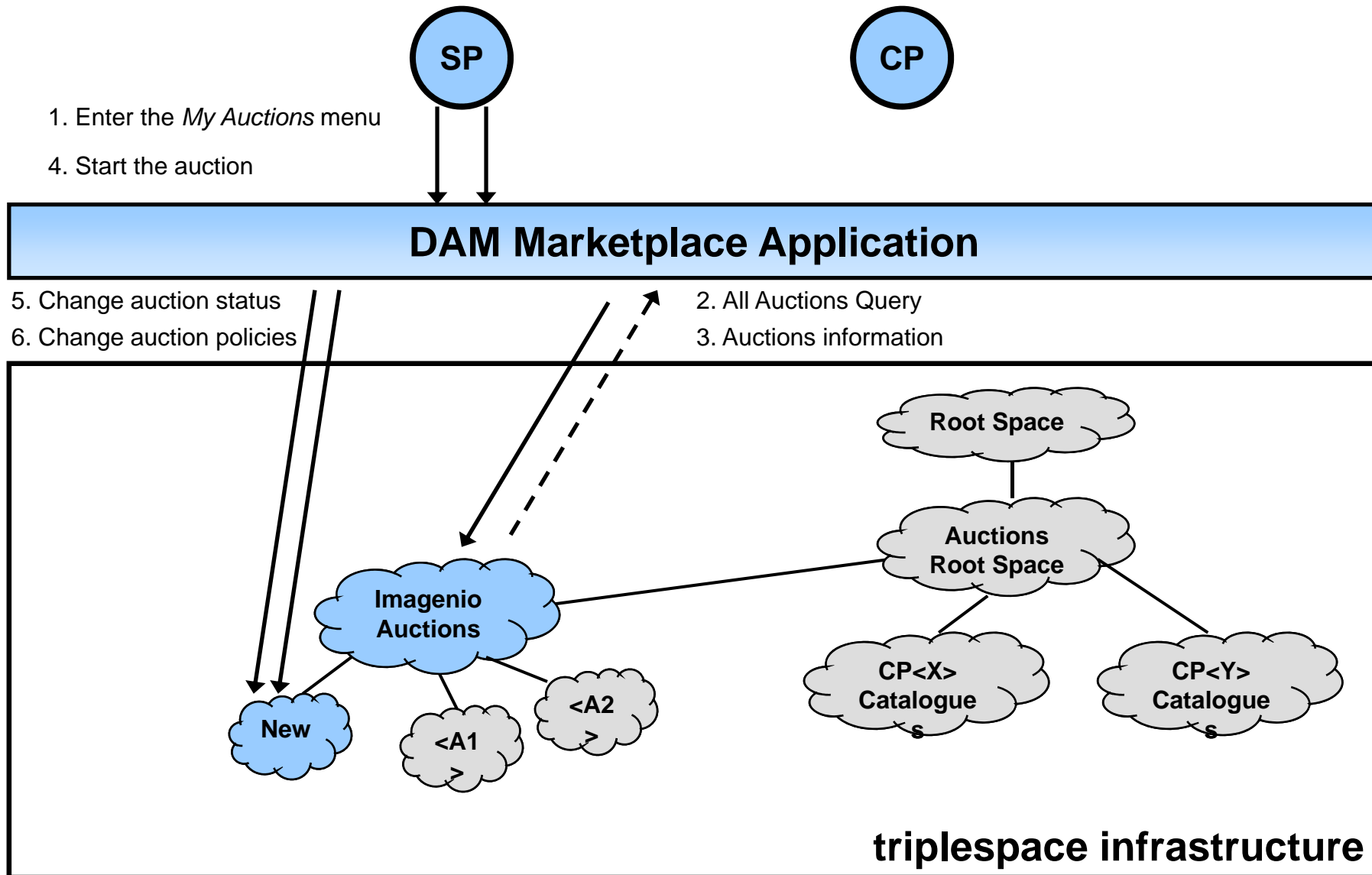
2. All Auctions Query

3. Auctions information

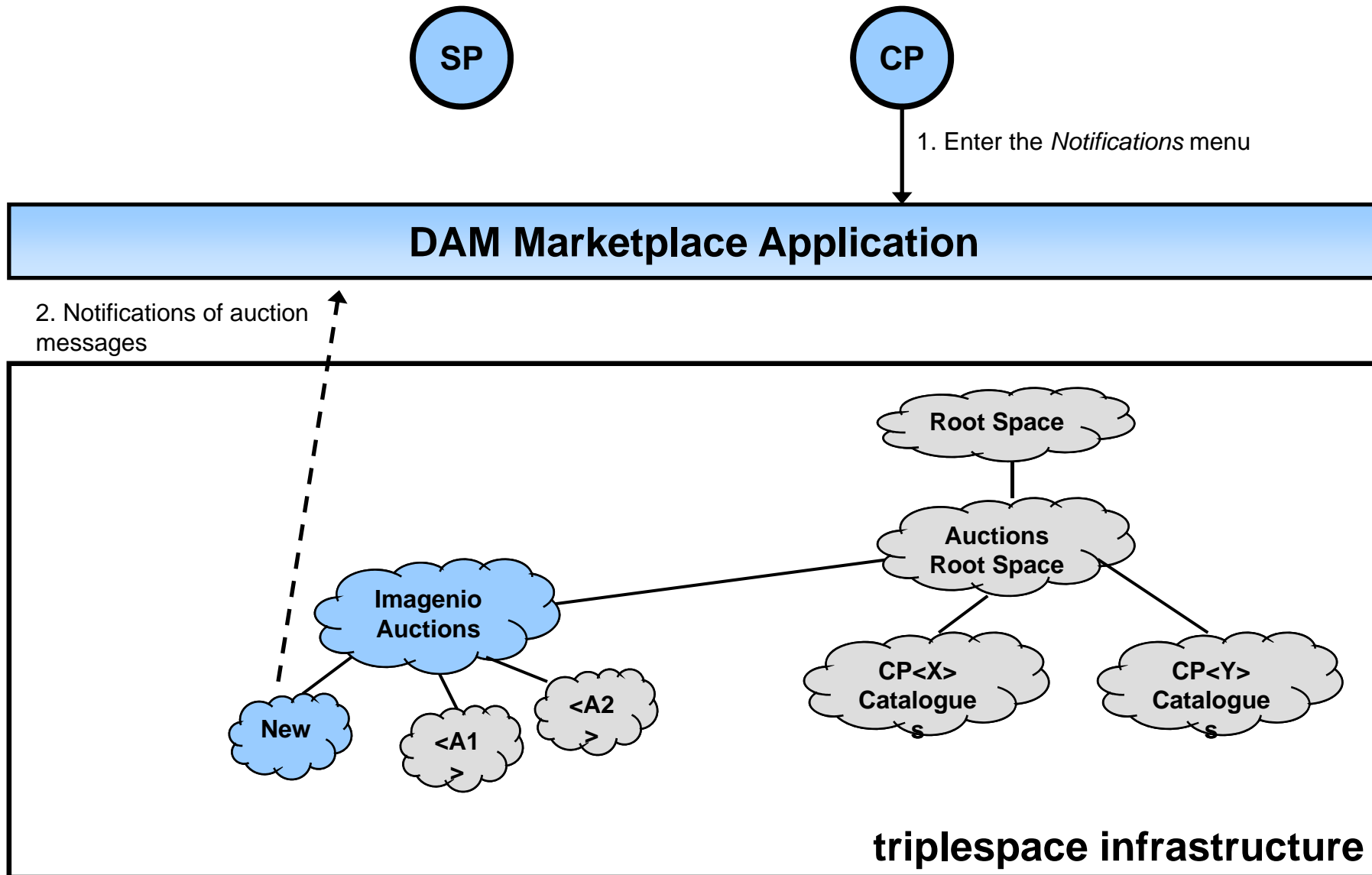
6. Subscribe to auction messages



Auction Management (III)



Auction Management (and IV)



Questions

Thank you for your attention