

Load Throttling Drill-Down

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Overview



Load Throttling

- **Load Throttling is an Operational Approach that Uses Provided Software Features**
- **Most Important for an Operable and Workable System**
- **Based on Session and Request Management Concepts**
- **Configurable and Controllable by Operations Staff**
- **More Details in DID 305, Volume 24**

ECS Context

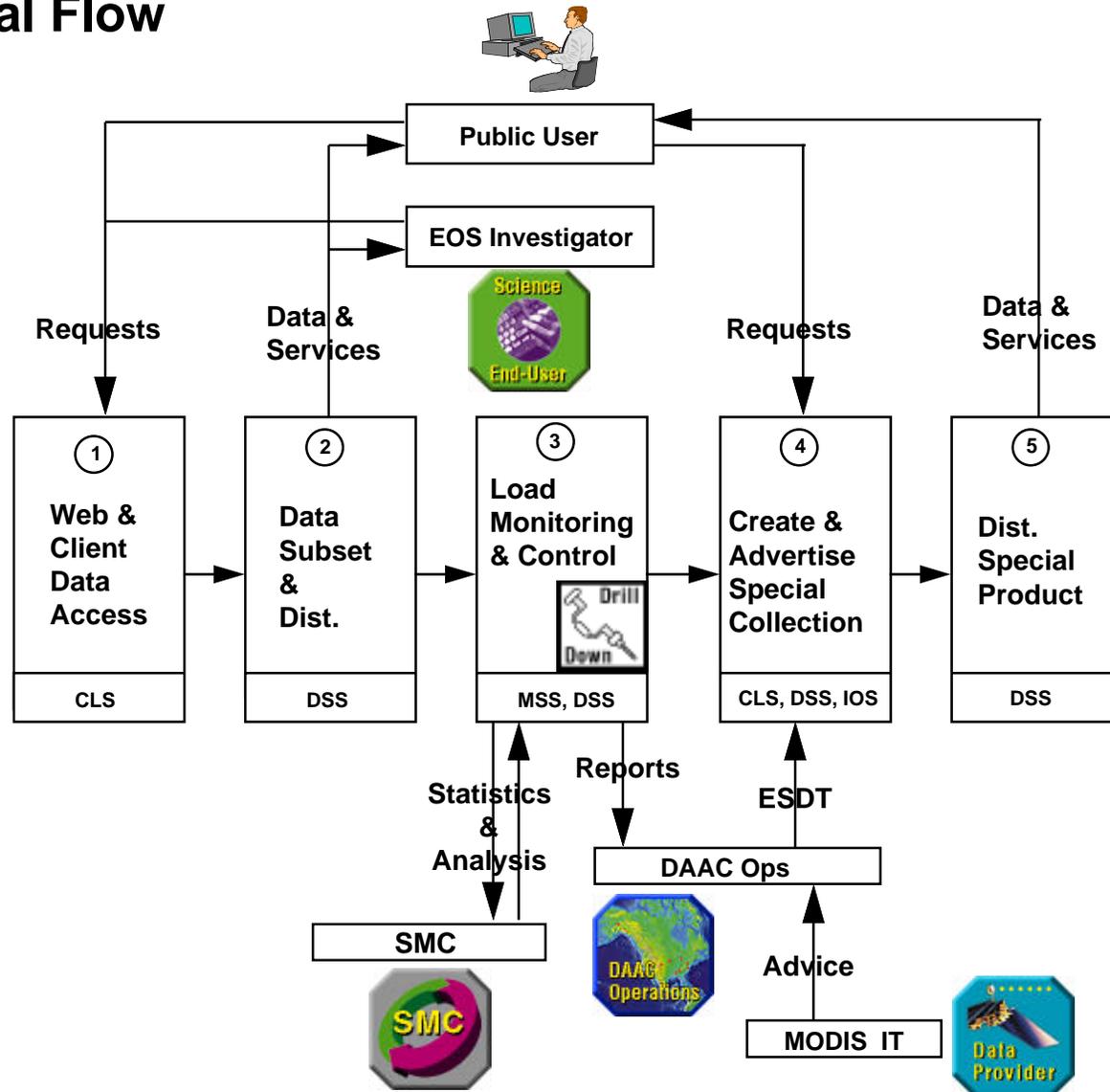
- **Data Server**
- **LIM**
- **DIM**

Scenario Context

- **Push + Pull**
 - **Spectacular Event**



Spectacular Event Functional Flow





Design Drivers

Architectural Drivers

- **Large Number of Requests (Sheer Volume)**
- **Contention for Resources**
- **Operator Control/Management of System**
 - **Balance Resource Blocked and Active Requests**
 - **Supports High Priority Requests**

New Release B features

- **Session Suspend and Resume**



Management Approaches

Session Management: Limit the Number of Active Number of Sessions and Control their Priorities

- **Sessions are Realized via DCE Threads**
- **DAAC Configurable For External (Users) and Internal (Processing)**
- **When Limit Reached, Return “Busy” to Requester**
- **Operator can Proactively Suspend Sessions**

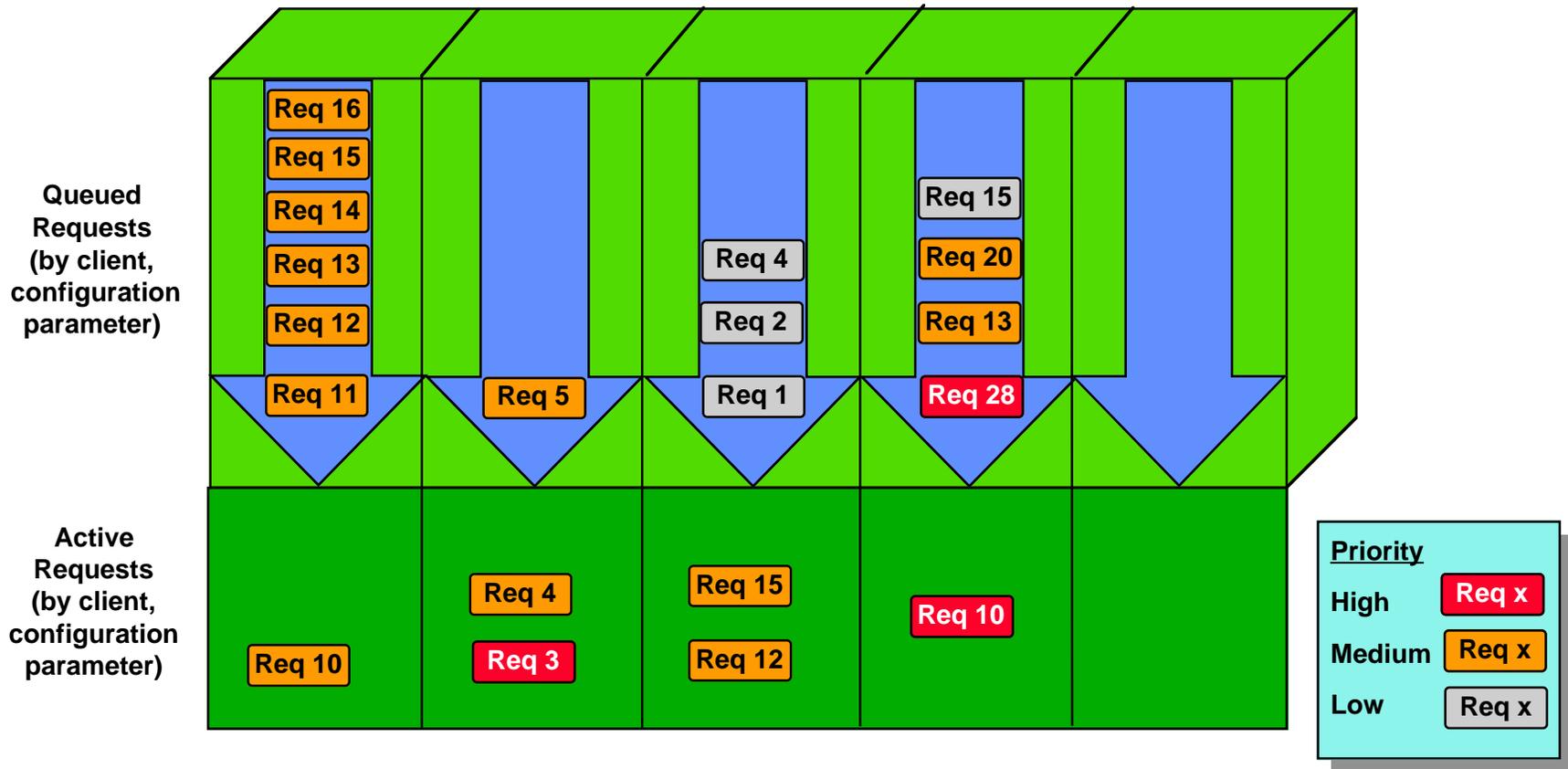
Request Queue Management: Limit The Number of Active Requests Within the System

- **User Profile Defines Relative Session Priority (Thread)**
- **Number of Queued Requests in Session (Configurable)**
- **Number of Total Active System Requests**
- **User Defined Request Priority (within that User’s Session)**



Request Management & Priorities

Number of client connections
(configuration parameter)



Evolutionary Features



Potential Future Enhancements

- **Automated System Tuning Based on Load (Currently Manual)**

Scalability

- **Session Limits Can be Expanded on Larger Machines**
- **Request Limits Can Similarly be Increased**

Current Status



Prototypes

- **OODCE SGI Practical Session Limits and Prioritization Effects**

Next Steps

- **Analyze Feedback from Release A Implementation**
- **Further Analyze Session Suspension/Resumption Scenarios**

Summary



Load Throttling Highlights

- **Operational Approach**
- **Configuration of System Parameters (Session and Request Limits)**
- **Operations Staff can Proactively Affect System Throttling**