

2nd Annual

MidPoint Community Meetup

Extending MidPoint with Flexible Self-Service UI Using a SCIM Overlay

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Agenda

- Challenge
- Our Approach
- The SCIM Standard
- MidPoint SCIM Overlay
- Didmos 2 LUI
- Live Demo
- Conclusion and Outlook



Challenge

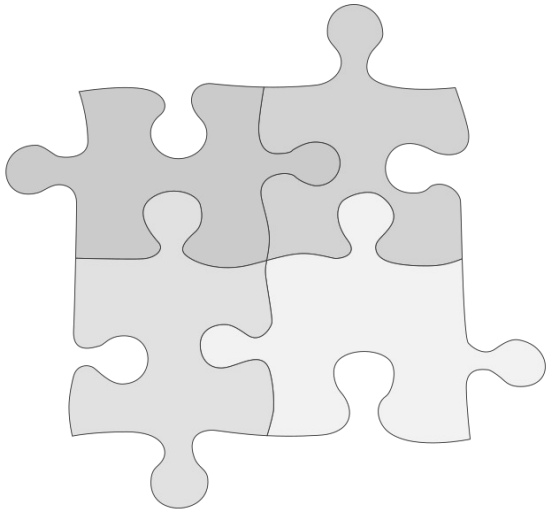
- MidPoint’s UI often overwhelms non-technical users by exposing backend complexity
- This creates friction for adoption and increases support overhead
- The accessibility of midPoint to these users can be enhanced by using a more intuitive and customized user interface

Our Approach

- We propose a two-layer enhancement using midPoint's Overlay architecture:

  1) **didmos 2 LUI**: A customizable UI that translates user actions into SCIM 2.0 operations (e.g., PATCH /Users for profile updates)

  2) **SCIM Overlay**: Converts SCIM calls into native midPoint operations



The SCIM Standard

- SCIM stands for **System for Cross-domain Identity Management**
- Definition:

  SCIM is an open standard for automating the exchange of user identity information between applications.
  It simplifies and standardizes user identity lifecycle management (e.g., creating, updating, deleting users) across cloud applications and services by providing a common user schema and extension model and providing patterns for exchanging this schema using standard protocols.

- SCIM aims to alleviate the automation of provisioning/deprovisioning of users, their entitlements and other resources

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SCIM Core Resources and Schema

- SCIM is designed to exchange **resources** between cloud services
- Core resources:
  - User
  - Group
- Every resource type has a default schema, but can also be **extended** by custom attributes
- SCIM resources are represented and exchanged in **JSON format**

SCIM Core User Resource

- Example:

```
{
  "schemas": ["urn:ietf:params:scim:schemas:core:2.0:User"],
  "id": "2819c223-7f76-453a-919d-413861904646",
  "userName": "bjensen@example.com",
  "name": {
    "formatted": "Ms. Barbara J Jensen",
    "familyName": "Jensen",
    "givenName": "Barbara",
    "middleName": "Jane",
    "honorificPrefix": "Ms."
  },
  "displayName": "Babs Jensen",
  "nickName": "Babs",
  "emails": [
    {
      "value": "bjensen@example.com",
      "type": "work",
      "primary": true
    },
    {
      "value": "babs@jensen.org",
      "type": "home"
    }
  ]
}
```

SCIM Core User Resource with extension

- Example:

```
{
  "schemas":
    ["urn:ietf:params:scim:schemas:core:2.0:User",
      "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User"],
  "id": "2819c223-7f76-453a-919d-413861904646",
  "externalId": "701984",
  "userName": "bjensen@example.com",
  ...
  "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User": {
    "employeeNumber": "701984",
    "costCenter": "4130",
    "organization": "Universal Studios",
    "division": "Theme Park",
    "department": "Tour Operations",
    "manager": {
      "value": "26118915-6090-4610-87e4-49d8ca9f808d",
      "$ref": "../Users/26118915-6090-4610-87e4-49d8ca9f808d",
      "displayName": "John Smith"
    }
  }
}
```

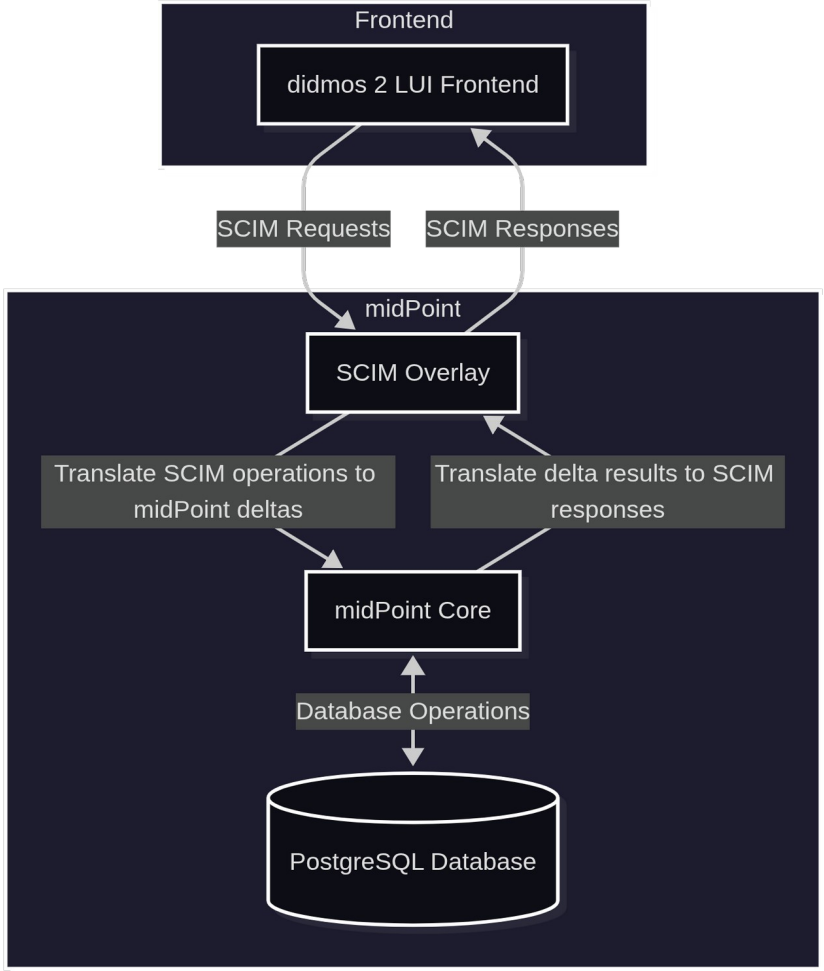
SCIM Protocol

- SCIM supports these operations for users and other defined resources
  - Create
  - Search and retrieve
  - Modify
  - Delete

The SCIM Standard - References

- RFC 7642: https://www.rfc-editor.org/rfc/rfc7642.html
- RFC 7643: https://www.rfc-editor.org/rfc/rfc7643.html
- RFC 7644: https://www.rfc-editor.org/rfc/rfc7644.html
- SCIM Overview: https://scim.cloud/

Target Architecture



MidPoint SCIM Overlay

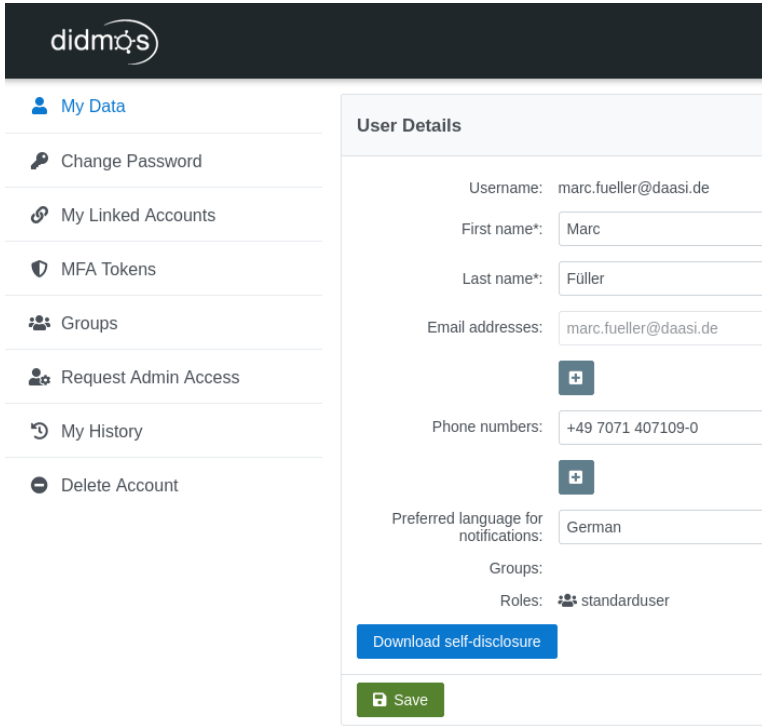
- A midPoint overlay project that implements SCIM v2.0 REST API
- Developed by DAASI International
- Open Source and available on our public gitlab (https://gitlab.daasi.de/midpoint/midpoint-scim-overlay)

MidPoint SCIM Overlay

- Deployment:
  - Clone git repo
  - Make sure that you have Maven and Java 21 installed on your system
  - Build the overlay: **`mvn clean install`**
  - Replace the `/opt/midpoint/lib/midpoint.jar` with the newly build file `<repodir>/target/midpoint-scim2-service-2.0.3-M4.8.11.jar`

Didmos 2 LUI

- GUI of didmos IAM suite developed by DAASI International based on node.js
- LUI = LDAP User Interface
- Communicates with the didmos core using SCIM protocol

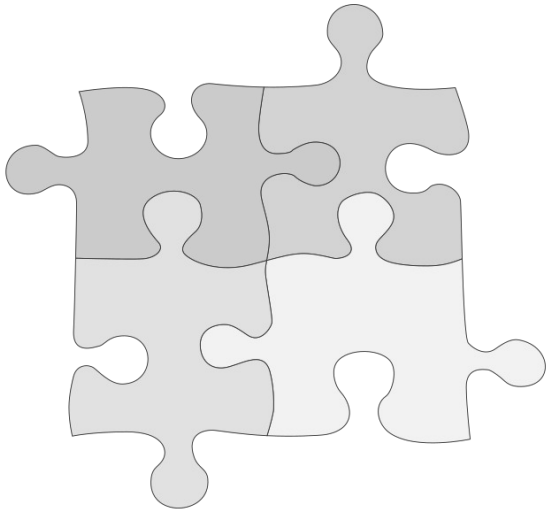


Live Demo



Conclusion - Key Benefits

- **Seamless integrations**: SCIM standard enables integration with additional third-party applications
- **Reduced complexity**: Simplifies workflows for non-technical users
- **Corporate Identity**: didmos 2 LUI allows for custom CSS and thus can fully integrate into the CI
- **Full midPoint functionality**: all features are usable



Outlook

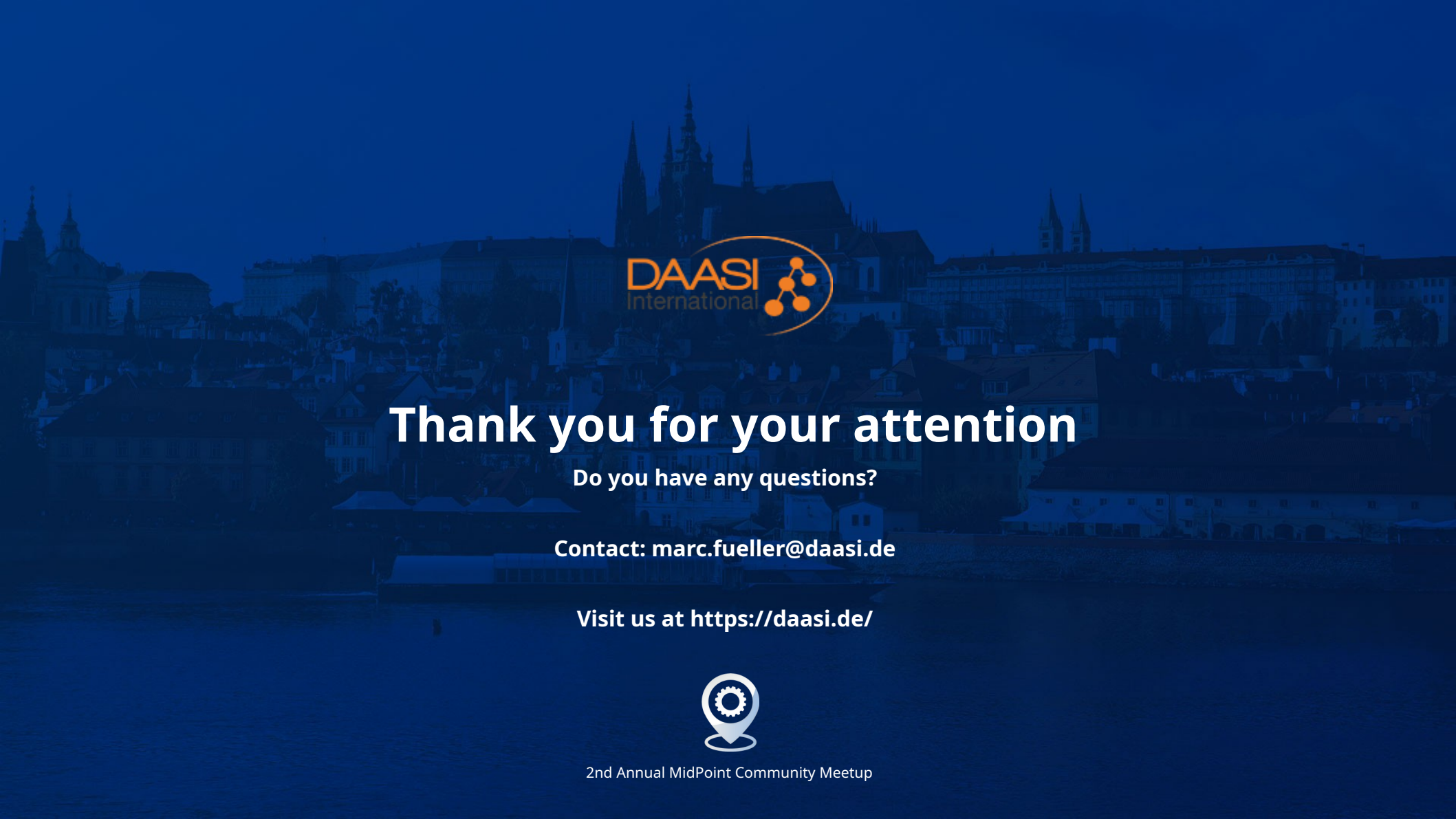
- Integration using OpenID Connect
- Further features for the User Self-Service
  - Introduce delegated administration for team leads or department managers.
  - Visualize multi-account scenarios
- Integration with external systems
  - Enable Single-Sign-On (SSO) and Multi-Factor Authentication (MFA) integration for enhanced security.
- ...



References

- MidPoint Overlay Development documentation: https://docs.evolveum.com/midpoint/reference/support-4.10/deployment/maven-overlay-project/
- Custom REST Overlay project: https://github.com/Evolveum/midpoint-custom-rest-service
- MidPoint SCIM Overlay Repository: https://gitlab.daasi.de/midpoint/midpoint-scim-overlay
- Didmos2 Repository: https://gitlab.daasi.de/didmos2





Thank you for your attention

Do you have any questions?

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