Implementation Guidelines: Groupware Architecture
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INTRODUCTION

IMPLEMENTATION GUIDELINES

IMPLEMENTATION GUIDELINES FOR CONTENT EXCHANGE

Guideline 1: Exchange documents in standard formats:

Avoid new deployment of proprietary document formats.

IMPLEMENTATION GUIDELINES FOR EMAIL GATEWAYS

Guideline 1: Implement mail clients and applications that conform to standards (SMTP, MIME, IMAP4, LDAP).

Guideline 2: Implement native MIME compatibility in mail clients and applications.

Guideline 3: Avoid implementation of local email directories that cannot be shared among state agencies.

IMPLEMENTATION GUIDELINES FOR CALENDARING AND SCHEDULING

Guideline 1: Implement platform independent group calendaring and scheduling systems allowing coordination of activities in an organization or network.

IMPLEMENTATION GUIDELINES FOR DOCUMENT MANAGEMENT

Guideline 1: Implement document filing and collaboration via consistent manual or semi-automated processes using shared storage media and provide simple methods for locating documents.
Introduction

The intent of this document is to provide general implementation guidelines within the groupware technology domain. This will help to ensure that the State of North Carolina adopts uniform and consistent implementations of groupware solutions across the enterprise.

The key goal of this document is to outline implementation guidelines that, when followed by the solution developers, will lead to a well-designed groupware solution that has the flexibility to grow with changes in technology and can be maintained in an efficient and effective manner. This is a fundamental principle of the North Carolina Statewide Technical Architecture.

This implementation guild is currently being revised both to better reflect the state of technology and improve upon existing architectural guidelines to better support state agency initiatives.

Implementation Guidelines

Implementation Guidelines for Content Exchange

Guideline 1: Exchange documents in standard formats:
Avoid new deployment of proprietary document formats.

Rationale

- Proprietary formats hinder successful content exchange extensibility.

Implementation Approach for Content Exchange

<table>
<thead>
<tr>
<th>Avoid New Deployment</th>
<th>Current Technology</th>
<th>Emerging Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migrate From Technology</td>
<td>Direction</td>
<td></td>
</tr>
<tr>
<td>Proprietary document formats</td>
<td>Exchanging documents in standard formats</td>
<td>None at this time</td>
</tr>
</tbody>
</table>

Table 1 - Implementation Guideline Summary for Content Exchange

Implementation Guidelines for Email Gateways

Guideline 1: Implement mail clients and applications that conform to standards (SMTP, MIME, IMAP4, LDAP).
Rationale

- Standards compliant mail clients and applications provide flexibility for business units while allowing consistent and leveraged management of core email infrastructure.

**Guideline 2: Implement native MIME compatibility in mail clients and applications.**

**Rationale**

- Gateway-based MIME implementations are not as adaptable to changing user needs and creation of new MIME types relative to client implementations.
- Eliminate gateways by making them unnecessary.

**Guideline 3: Avoid implementation of local email directories that cannot be shared among state agencies.**

**Rationale**

- Independent directories hinder ease-of-use for enterprise directory lookup and force users to maintain local address books for recipients who are within the state enterprise but use disparate mail systems.

### Implementation Approach for Email

<table>
<thead>
<tr>
<th>Avoid New Deployment</th>
<th>Current Technology Direction</th>
<th>Emerging Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migrate From Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proprietary email</td>
<td>Installation of PC clients and email applications adhering to the standards documented in this chapter (SMTP, MIME, IMAP4, LDAP)</td>
<td>ICAP</td>
</tr>
<tr>
<td>Non-MIME compliant email Gateway reliant email</td>
<td>Upgrade to MIME compliance if available Replace with MIME compliant email if</td>
<td>None at this time</td>
</tr>
</tbody>
</table>
Table 2 - Implementation Approach for Email

| Multiple local email directories not easily shared between agencies | Transparent email directory service for the entire state. The user will be capable of seamlessly accessing the directory information for all state employees whether or not the employee information resides within the MUA's host directory service | Comprehensive network and organizational directory services. The directory service will provide network addresses as well as employee addresses, allowing the system to look up email addresses and automatically generate notification messages. |

Implementation Guidelines for Calendaring and Scheduling

**Guideline 1:** Implement platform independent group calendaring and scheduling systems allowing coordination of activities in an organization or network.

**Rationale**

- Platform dependent personal calendars and schedulers inhibit collaboration and coordination of group events and resource sharing.

**Implementation Approach for Calendaring and Scheduling**

<table>
<thead>
<tr>
<th>Avoid New Deployment Migrate From Technology</th>
<th>Current Technology Direction</th>
<th>Emerging Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary, platform dependent personal organizers that maintain calendar and scheduling information independently of the network</td>
<td>Platform independent Group Calendaring and Scheduling systems allowing coordination of activities in an organization on a</td>
<td>ICAP and iCalendar standards Integration with State Portal</td>
</tr>
</tbody>
</table>
Implementation Guidelines for Document Management

Guideline 1: Implement document filing and collaboration via consistent manual or semi-automated processes using shared storage media and provide simple methods for locating documents.

Rationale

• Consistent filing procedures and use of search mechanisms facilitate efficient and effective document retrieval.

Implementation Approach for Migration to Integrated Document Management

<table>
<thead>
<tr>
<th>Avoid New Deployment</th>
<th>Current Technology Direction</th>
<th>Emerging Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migrate From Technology</td>
<td>Paperwork, manual processes Semi-automated, word processing, spreadsheets Office automation suites Network file services Transaction processing Imaging systems</td>
<td>EDM integration with office automation suites and other applications Component architecture Structured / distributed document repositories Compound / virtual e-docs Knowledge Management Open systems Document/Workflow enabled legacy systems Analytical processing</td>
</tr>
<tr>
<td>Fragmented storage of documents in the following mediums: Paper Film Local / network file directories Single agency accessible databases Legacy applications Proprietary imaging systems</td>
<td>Long file names File search File managers</td>
<td>Universal search mechanisms based on indexing and document content / abstract Automatic delivery (workflow)</td>
</tr>
<tr>
<td>Document file location by: Card catalog Personal memory Non-universal electronic index File system pathnames</td>
<td>Workgroup, office automation packages</td>
<td>EDMS, Workflow Shared documents Automated merging and version control</td>
</tr>
<tr>
<td>Document collaboration via shared directories and manual version control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documents stored in various databases, file systems, and spreadsheets</td>
<td>Common data storage formats (Refer to Data Architecture chapter)</td>
<td>Object oriented data storage Object management Object distribution Assembly of objects in real time</td>
</tr>
<tr>
<td>---</td>
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</tr>
</tbody>
</table>

*Table 4 - Implementation Guideline Summary of the Migration to Integrated Document Management*