9P2000 Protocol Erlang Extention
v0.1

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1 Abstract

TODO

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2 Notation

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", "OPTIONAL" in this document should be interpreted as described in [1].

3 Introduction

Erlang on Xen makes extensive use of 9p protocol for a multitude of tasks, including code loading, storage access, node monitoring, message passing, etc. In most cases, the standard semantics of the protocol is enough. However, in a few cases limitations of the protocol gets in the way.

Dropped transport connections 9p connections are tightly coupled to the underlying transport (TCP) connections. The loss of TCP connection – a frequent occurence during instance migration – means that all Fids are lost.

Simple operations too chatty A simple operation, such as writing "0" to a synthetic file, require multiple network roundtrips: walk to file, open Fid, write data, clunk Fid. This makes many administrative tasks noticably slow.

The 9p protocol extension – 9P2000.e – is introduced to address these two issues. Erlang on Xen use this protocol version for internode communications.

4 Overview

9P2000.e is the extension of 9P2000 protocol [2]. It adds several new protocol operations as described below. Semantics of standard protocol operations are left unchanged.

A new operation – session – establishes a session identifier and allows reestablishing sessions over a new transport connection without automatic clunking of all Fids.

The protocol extension adds a few new operations that act as macro-operations of frequently used sequences.

The server that implements 9P2000.e should fall back gracefully to use 9P2000 protocol by disable the newly introduced operations.

5 New messages

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size[4] Tsession tag[2] node[s] group[s] key[4]

TODO
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6 New operations

6.1 session - announce reestablish a session

SYNOPSIS

```
size[4] Tsession tag[2] node[s] group[s] key[4]
```

DESCRIPTION

Bibliography

[1] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels," BCP 14, RFC 2119, March 1997.

[2] 9P2000 Protocol Specification, Plan 9 Manual Section 5 (http://man.cat-v.org/plan_9/5/).